

**ΚΟΛΜΤΑΣ** 

# **KDC400 User Manual**

**(Rev 3.02B)**

December, 2011

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May be covered under one or more pending and/or US Patents, including US Pat. No. 7,769,917; 7,954,710.

KDC® is a registered trademark and property of KoamTac, Inc.

KoamTac® is a registered trademark and property of KoamTac, Inc.

KTSync® is a registered trademark and property of KoamTac, Inc.

**TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS UNIT TO ANY TYPE OF MOISTURE. DO NOT LOOK DIRECTLY INTO LASER OR POINT THE LASER INTO ANOTHER PERSON'S EYES. EXPOSURE TO THE BEAM MAY CAUSE EYE DAMAGE.**



## CAUTION:

Changes or modifications not expressly approved by the manufacturer responsible for compliance could void the user's authority to operate the equipment.

## WARNING:

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

## INFORMATION TO USER:

This equipment has been tested and found to comply with the limit of a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation; if this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user, is encouraged to try to correct the interference by one or more of the following measures:

1. Reorient / Relocate the receiving antenna.
2. Increase the separation between the equipment and receiver.
3. Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
4. Consult the dealer or an experienced radio/TV technician for help.

**WARNING: RISK OF EXPLOSION IF BATTERY IS REPLACED BY AN INCORRECT TYPE. DISPOSE USED BATTERIES ACCORDING TO THE INSTRUCTIONS.**

# 1. INTRODUCTION

Congratulations on purchasing KoamTac's revolutionary barcode scanner and data collector.

Lightweight and compact, with a user-friendly design and superior functionality, KoamTac's KDC works in a variety of portable applications. Use it independently or as an accessory to your PC, PDA, or smartphone. To find out more about KoamTac, Inc. and our family of products, visit us at [www.koamtac.com](http://www.koamtac.com).

| FEATURES   | KDC100 | KDC200 | KDC250 | KDC300 | KDC400           |
|--|--------|--------|--------|--------|------------------|
| USB CONNECTIONS  | 2      | 1      | 1      | 1      | 1                |
| RECHARGEABLE BATTERY   | YES    | YES    | YES    | YES    | YES              |
| SCAN ENGINE  | Laser  | Laser  | Laser  | Imager | Laser/<br>Imager |
| AUTOMATIC DATA UPLOAD  | YES    | YES    | YES    | YES    | YES              |
| STORES 10,000+ BARCODES                                      | YES    | YES    | YES    | YES    | No               |
| KTSYNC® SOFTWARE   | YES    | YES    | YES    | YES    | YES              |
| SDK FOR DEVELOPERS   | YES    | YES    | YES    | YES    | YES              |
| SUPPORTS MICROSOFT®<br>WINDOWS XP, VISTA, 7 &<br>MOBILE 5.0+ | YES    | YES    | YES    | YES    | YES              |
| ANDROID, BLACKBERRY,<br>IOS                                  | NO     | YES    | YES    | YES    | YES              |
| BLUETOOTH  | NO     | YES    | YES    | YES    | YES              |
| GPS  | NO     | NO     | YES    | NO     | NO               |

Table 1 - Features of KDC

## 1.1 KDC Package

The standard KDC package contains:

1. One KDC Barcode Data Collector
2. One USB Cable
3. One Lanyard (KDC100/200/250/300) or One Hand Strap (KDC400)
4. KoamTac Installation CD with
  - KTSync<sup>®</sup> for Microsoft Windows XP, Vista, 7 and Mobile 5.0+
  - KDC Device Driver
  - User Manual
5. One Protective KDC Rubber Case (KDC100/200/250/300) or One Smartphone Protective Rubber Case (KDC400)

NOTE: Depending on your region or distributor, package contents may vary.

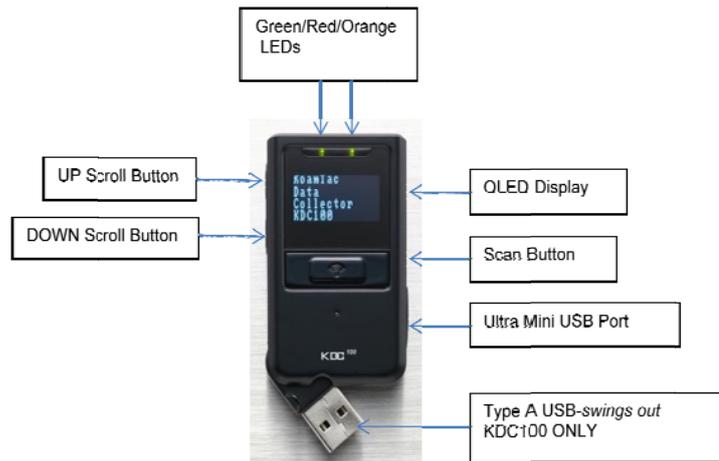


Figure 1 – KDC Package

## 1.2 KDC Characteristics

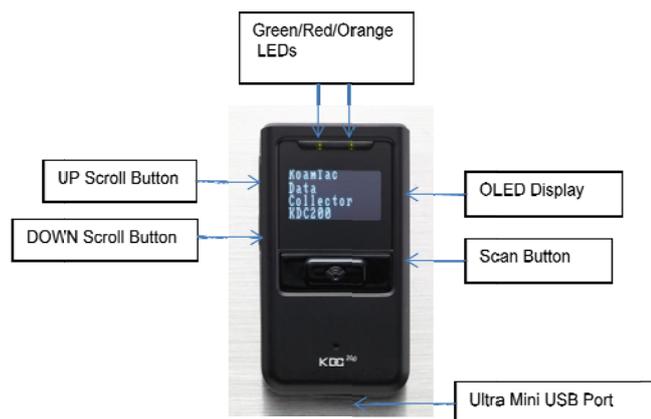
Before you use your KDC, please become familiar with its physical characteristics. Refer to Figure 2 and Figure 3 below which indicate placement of scan and scroll buttons, OLED display, LEDs, and ports on your KDC. KDC100/200/250/300 models are similar except for the KDC100 which includes an additional USB connector. KDC400 has power switch and two scan buttons but doesn't have OLED display.

### *KDC100 Barcode Reader and Data Collector*

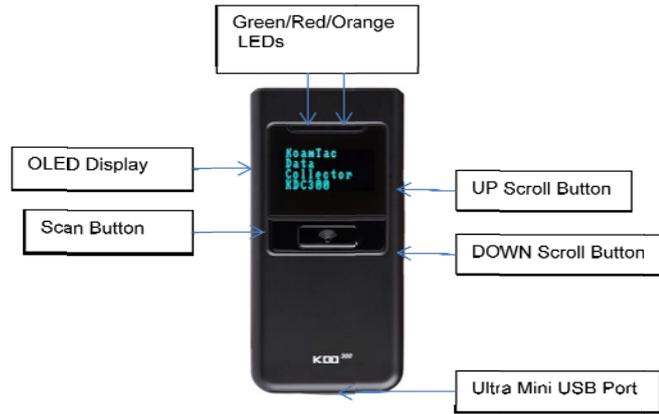


)

### *KDC200 / KDC250 / KDC300 Barcode Reader and Data Collector*



*KDC200*



KDC250/300

10



KDC400

C400

## 2. INSTALLATION

### 2.1 KoamTac Installation Wizard

---

Before you are able to use KDC400 with Smartphones, the KDC400 must be paired with the host device first. This pairing process only needs to be completed once with each host device. After pairing, the host device will always recognize the KDC as a Bluetooth device unless the Bluetooth configuration is modified. If it is modified, you may need to pair the devices again.

(1) Please power on KDC400.

(2) Please scan one of following Bluetooth profile to use. KDC430 should use KTSync to select Bluetooth profile.

#### **KDC410/415**

Bluetooth Device type SPP



Bluetooth Device type HID iOS



Bluetooth Device type IPHONE



Bluetooth Device type SPP2.0



Bluetooth Device type HID normal



#### **KDC420/425**

Bluetooth Device type SPP



Bluetooth Device type HID iOS



Bluetooth Device type IPHONE



Bluetooth Device type SPP2.0



Bluetooth Device type HID normal



(3) Please scan following enter pairing mode special barcode

**KDC410/415**



**KDC420/425**



Users can make KDC400 enters into pairing mode by pressing the right side button immediately after power on the KDC400.



(1) Power on

(2) Press right side button

(4) Please install and launch KTSync.

## 2.2 KTSync Installation Wizard

---

### *Windows XP*

#### **WARNING: DO NOT CONNECT KDC TO USB PORT PRIOR TO INSTALLATION**

1. Insert KoamTac Installation CD into your computer's CD drive.
2. Click **Start** icon then **My Computer** icon. A listing of devices on your computer will be displayed including the disk drive containing the KoamTac Installation CD.
3. Click on the KoamTac Installation CD icon then click on the Setup directory. Click on the PC\_Setup.exe file which executes the KTSync Setup Wizard.

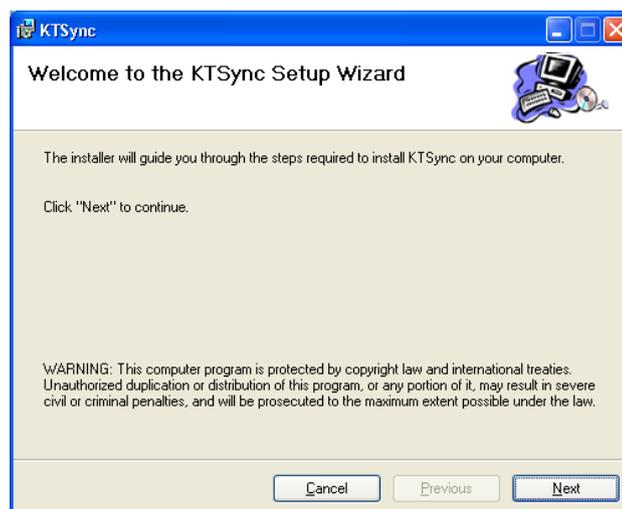
#### **NOTES**

- If KTSync Setup Wizard locates an older version of KTSync on your computer, you will be prompted to remove the older program before installing the new version. Select Remove KTSync then click Finish. When removal is complete, click Close. Go to Step 2 to run KTSync Setup Wizard.
- If you have any problems, please refer to the Manual Installation section.

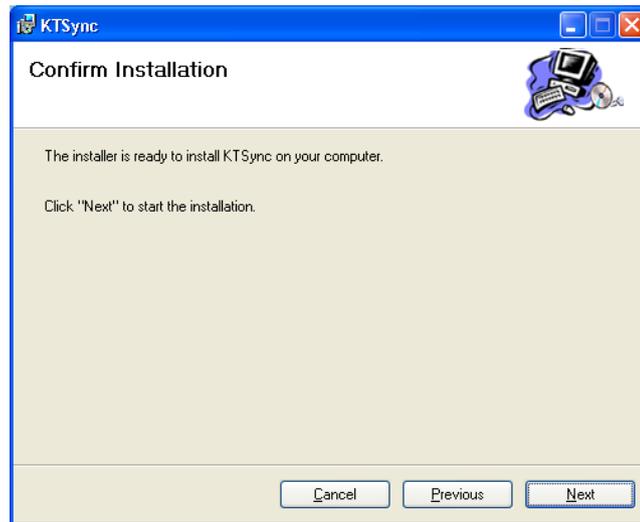
#### ***KTSync Setup Wizard***

Below are the screen images you will see during the installation of KTSync.

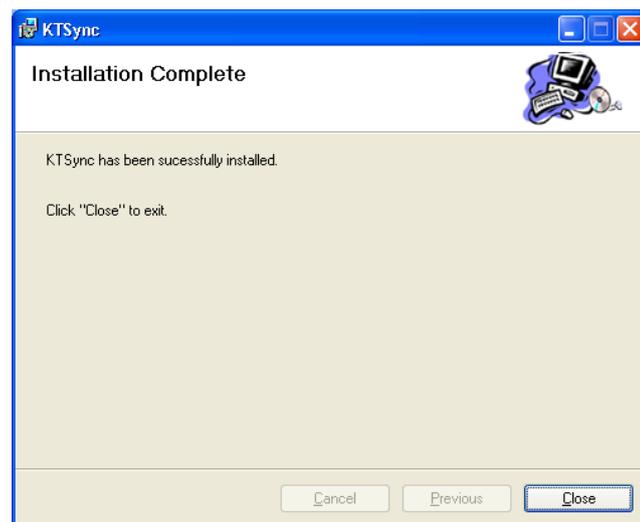
- Click **Next** icon in KTSync Setup Wizard window



- Click **Next** icon in KTSync Confirm Installation window



- Within a few minutes, installation of KTSync will be complete. Click **Close** icon and wait for the Device Driver Installation Wizard to load.



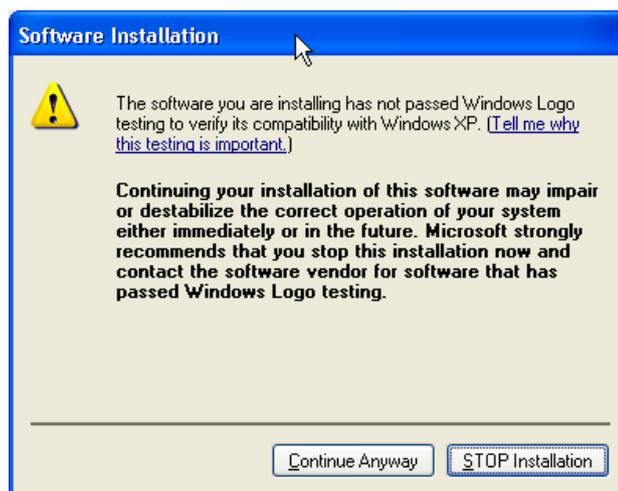
## Device Driver Installation Wizard

Below are the screen images you will see during the installation of the KDC Device Driver.

- Click **Next** icon in Device Driver Installation Wizard window



- Click **Continue Anyway** icon in Software Installation Logo testing window



- Click **Finish** icon in Device Driver Installation Wizard window



### Connect KDC to Computer

Using the USB cable included with the KDC, follow the directions below.

- Connect the cable's ultra mini USB connector to the KDC.
- Connect the cable's Type A USB connector to your PC.
- Wait until your computer beeps and/or displays the message *Found New Hardware*.

### Found New Hardware Wizard

- Select "No, not this time" option in Found New Hardware Wizard and click Next if your PC pops up the following Found New Hardware Wizard.



- Select "Install the software automatically (Recommended)" option in Found New Hardware Wizard and click Next if your PC pops up the following Found New Hardware Wizard.



- Click **Continue Anyway** icon in Software Installation Logo testing window

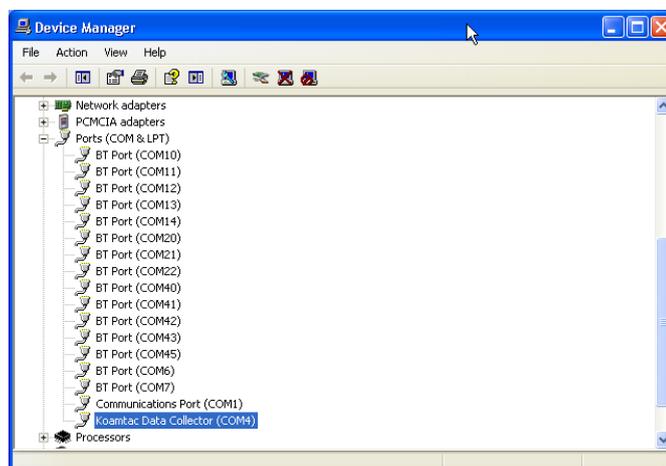


- Click **Finish** icon in Found New Hardware Wizard window



### Verify COM Port Address

- User can verify installed COM Port in Device Manager



## Vista and Windows 7

### **WARNING: DO NOT CONNECT KDC TO USB PORT PRIOR TO INSTALLATION**

1. Insert KoamTac Installation CD into your computer's CD drive.
2. Click **Start** icon then **My Computer** icon. A listing of devices on your computer will be displayed including the disk drive containing the KoamTac Installation CD.
3. Click on the KoamTac Installation CD icon then click on the Setup directory. Click on the PC\_Setup.exe file which executes the KTSync Setup Wizard.

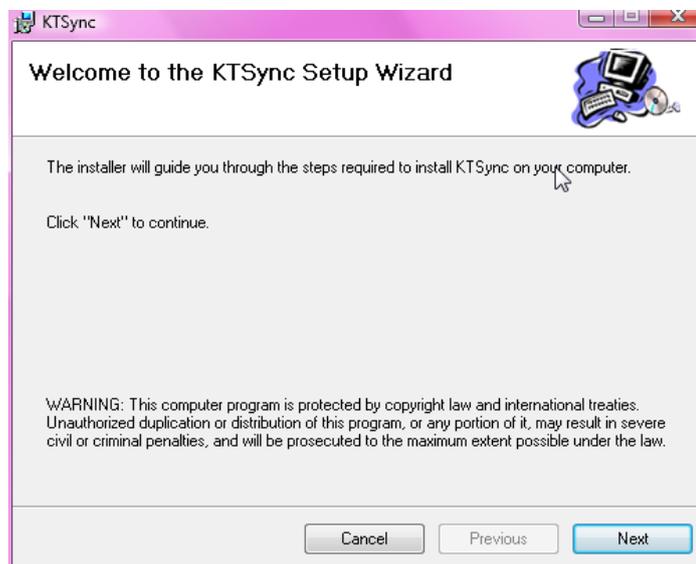
### **NOTES**

- If KTSync Setup Wizard locates an older version of KTSync on your computer, you will be prompted to remove the older program before installing the new version. Select Remove KTSync then click Finish. When removal is complete, click Close. Go to Step 2 to run KTSync Setup Wizard.
- If you have any problems, please refer to the Manual Installation section.

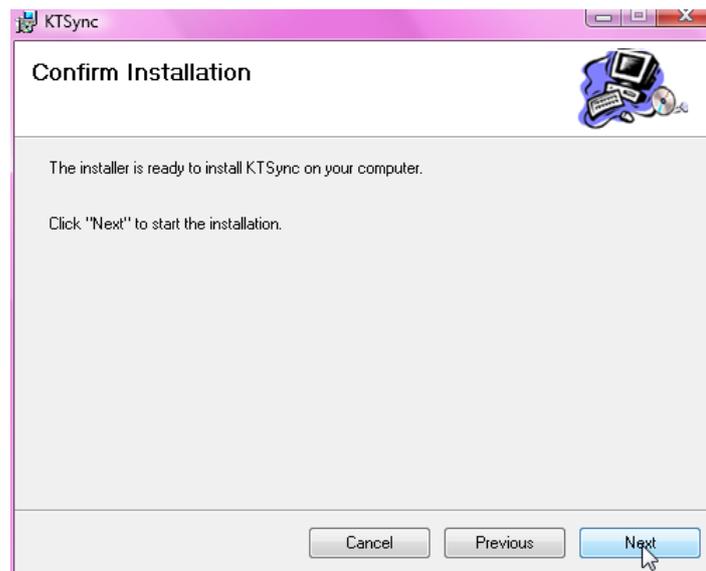
### ***KTSync Setup Wizard***

Below are the screen images you will see during the installation of KTSync.

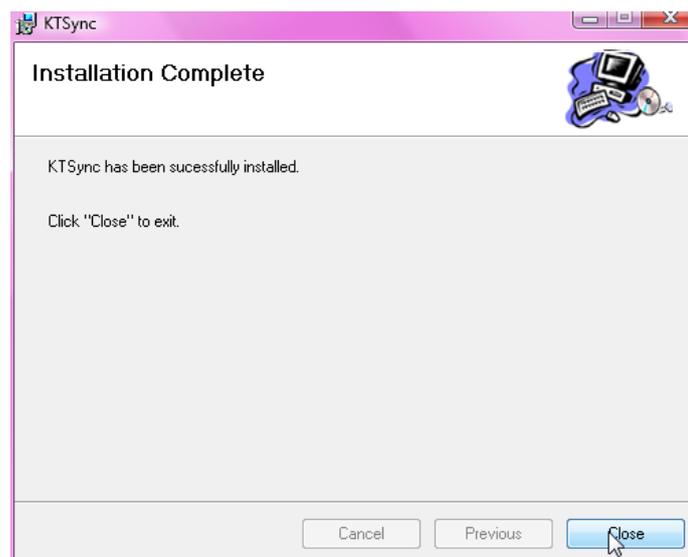
- Click **Next** icon in KTSync Setup Wizard window



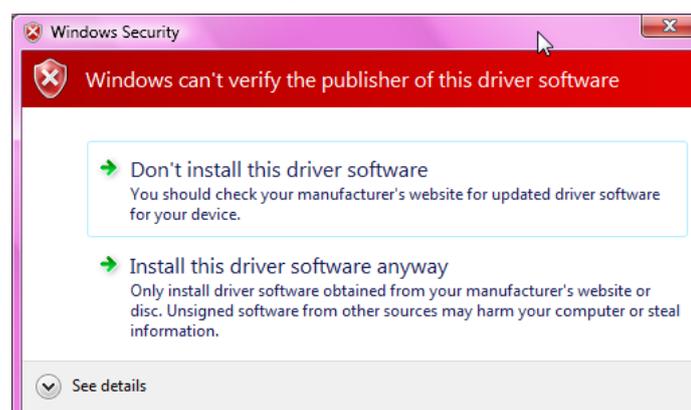
- Click **Next** icon in KTSync Confirm Installation window



- Click **Close** icon in KTSync Installation Complete window and wait for Device Driver Installation Wizard



- Click **Install this driver software anyway** in Windows Security window



- Click **Finish** icon in Device Driver Installation Wizard window



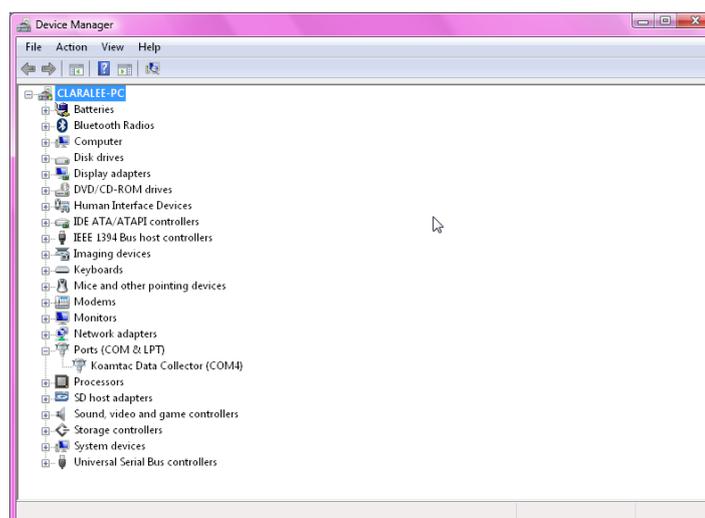
### **Connect KDC to Computer**

Using the USB cable included with the KDC, follow the directions below.

- Connect ultra mini USB connector to the KDC.
- Connect Type A USB connector to your PC.
- Wait until your computer beeps and/or displays the message *Found New Hardware*.

### **Verify COM Port Address**

- User can verify installed COM Port in Device Manager



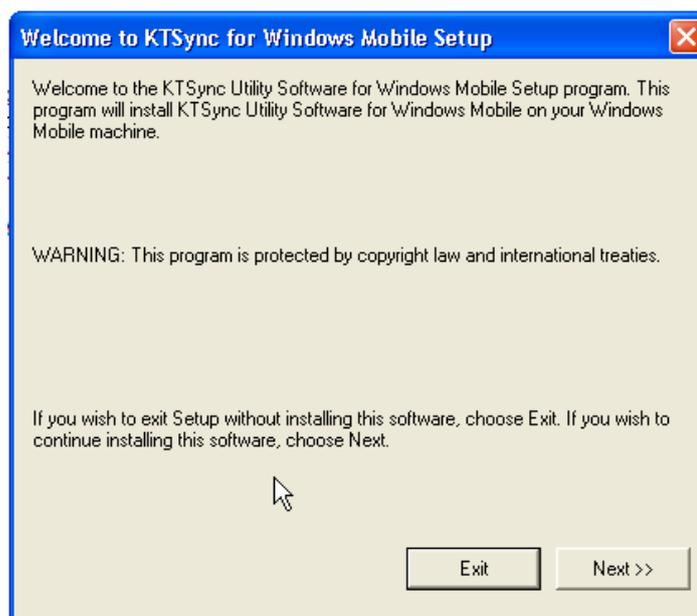
## Windows Mobile 5.0+

### **WARNING: PLEASE CONNECT PDA TO PC PRIOR TO INSTALLATION**

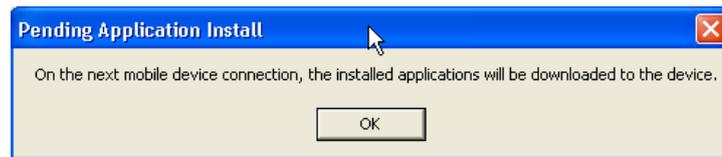
1. PC\_Setup.exe creates Mobile\_Setup.exe file under C:\Program Files\KoamTac\KTSync\Windows.Mobile directory
  2. Execute Mobile\_Setup.exe
- Select Windows Mobile version to install.



- Click Next icon.



- Click **OK** icon in Pending Application Install window



- Follow the instructions on PDA screen

### ***COM port Assignment***

- User should assign a COM port for KDC before using pKTSync.
- User should pair KDC with PDA using PDA *Bluetooth* manager and assign a COM port for *Bluetooth* communication
- Please refer to the PDA manual for the details of COM port assignment method

## *Android*

- Download and install aKTSync from the Android Market.  
[http://www.androidzoom.com/android\\_applications/productivity/ktsync\\_luxv.html](http://www.androidzoom.com/android_applications/productivity/ktsync_luxv.html)

## *Blackberry*

- Download and install bKTSync from the Blackberry App World.  
<http://appworld.blackberry.com/webstore/content/16861?lang=en>

## *iPad/iPhone/iPod touch*

- Download and install iKTSync from the Apple App Store.  
<http://itunes.apple.com/us/app/ktsync/id372916602?mt=8>



## 2.3 KTSync Manual Installation

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The KDC is equipped with one ultra mini USB port which is used to upload barcode data and to charge the KDC battery. Prior to using the KDC, KTSync software and KDC device driver must be installed on your computer. Using the USB cable included with the KDC, follow the directions below.

**NOTE: If you have the KDC100, it has two ports, Ultra Mini and standard Type A which swings out. See Figure 2 for more details.**

### *Windows XP, Vista, and 7*

1. Insert the KoamTac Installation CD into your computer's disk drive.
2. Create a directory called KoamTac on your computer.
3. Copy XP.Vista.7 directory from KoamTac CD to KoamTac directory. The XP.Vista.7 directory contains KTSync® programs for Microsoft® Windows XP, Vista, Windows 7 and user manuals.
4. Connect KDC cable to ultra mini USB connector on the KDC.
5. Connect KDC cable to Type A USB connector on your computer. Wait until your computer beeps and/or displays the message *New Hardware Found*. You will be prompted to search for a device driver for KDC.
6. Browse then select *KTReader.inf* file from the KoamTac directory created in Step 2. Follow screen prompts to continue with the device driver installation.

**NOTE: *KTReader.inf* is the device driver for 32bit Microsoft® Windows XP, Vista, and Windows 7. If you have a 64bit computer, use *KTReader.inf* file from XP.Vista.64bit folder in the KoamTac directory.**

### *Windows Mobile 5.0+*

Please connect your Windows Mobile PDA to your computer before software installation.

- Create a directory and name it KoamTac on the PDA.
- Copy Mobile5.0\_6.0 directory from KoamTac CD to PDA KoamTac directory.
- Mobile5.0\_6.0 contains KTSync® programs for Microsoft® Windows Pocket PC 2003, Mobile 5.0, Mobile 6.0 Standard, and Mobile6.0 Professional. It also includes KDC User Manual.

## 3. OPERATING THE KDC

### 3.1 Getting Started

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#### *Attach Lanyard/Hand Strap to KDC*

To prevent possible damage to the KDC, we **strongly** recommend wearing it around your neck/hand by the included lanyard/hand strap. Also, please don't swing KDC by the lanyard/hand strap because contact with another object may cause it to malfunction or become damaged.

To attach the hand strap:

1. Fit the thin end of hand strap through the pillar of the KDC.
2. Loop the thick end of strap through the thin loop
3. Pull the strap tight to secure

#### *Charge KDC Battery*

Prior to using the KDC, you must charge its battery. To charge the battery, follow these directions.

1. Connect the KDC cable to the ultra mini USB connector on the KDC.
2. Connect the KDC cable to Type A USB connector on your computer.
3. Your KDC battery will begin charging. Within a few minutes, two small LEDs on the front panel will illuminate orange. When the battery is fully charged, the LEDs will illuminate green.

| <b>KDC100</b>  | <b>KDC200</b>  | <b>KDC250/300</b> | <b>KDC400</b>  |
|----------------|----------------|-------------------|----------------|
| <i>2 Hours</i> | <i>2 Hours</i> | <i>4 Hours</i>    | <i>5 Hours</i> |

*Table 2 – Approximate Time to Charge KDC Battery*

## Configure KDC

The KDC is designed to meet the data collection requirements of many different industries in a variety of dynamic situations. To perform well in these diverse environments, the KDC is designed to be configured easily and quickly. But, to perform at its maximum level, the KDC must be configured properly. Until you are familiar with configuring the KDC, it is recommended that you DO NOT modify the KDC settings. The KDC can be configured in three different methods which are explained in Section 3.3 – KDC Menus(KDC100/200/250/300 only), Chapter 5 –Synchronization, and Appendix C – Special Barcodes.

### CONFIGURATION METHODS FOR THE KDC100/200/250/300

- KDC Menu
- KTSync® Software
- Special Barcodes



Figure 6 - Location of Scroll Buttons

### CONFIGURATION METHODS FOR THE KDC400

- KTSync® Software
- Special Barcodes

## 3.2 Basics

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### *Reading Barcodes*

Reading a barcode is simple. Point the KDC at a barcode and press the scan button. Be sure to point the scan engine at the barcode, not at your face, and make sure to position the light beam on the barcode. If the barcode is scanned successfully, you will hear one beep and the LEDs will illuminate in green.

If the scan was unsuccessful, you will hear two beeps and the LEDs will illuminate in red. If you have problems scanning a barcode, try the following suggestions while pointing the KDC at the barcode and depressing the scan button.

- Modify the angle of the KDC in relation to the barcode, making the angle bigger or smaller as needed.
- Modify the distance between the barcode and the KDC, moving closer or further away as needed.
- Check option settings defined in the KDC menu section and change options as needed.
- Check that the barcode's width does not exceed the light beam's width and vice versa.

### *Synchronizing Barcode Data to PC*

Use the KTSync<sup>®</sup> program to synchronize barcode data from the KDC to your PC. Please refer to Chapter 5 for details.

## 3.3 KDC Menus

| Top Menu                      | Sub Menu         | Options          | KDC410(i) | KDC415(i) | KDC420(i) | KDC425(i) | KDC430(i) |
|-------------------------------|------------------|------------------|-----------|-----------|-----------|-----------|-----------|
| <b>Set Barcodes (410/415)</b> | EAN13            | Enabled/Disabled | Enabled   | Enabled   | N/A       | N/A       | N/A       |
|                               | EAN8             | Enabled/Disabled | Enabled   | Enabled   | N/A       | N/A       | N/A       |
|                               | UPCA             | Enabled/Disabled | Enabled   | Enabled   | N/A       | N/A       | N/A       |
|                               | UPCE             | Enabled/Disabled | Enabled   | Enabled   | N/A       | N/A       | N/A       |
|                               | CODE39           | Enabled/Disabled | Enabled   | Enabled   | N/A       | N/A       | N/A       |
|                               | ITF14            | Enabled/Disabled | Enabled   | Enabled   | N/A       | N/A       | N/A       |
|                               | CODE128          | Enabled/Disabled | Enabled   | Enabled   | N/A       | N/A       | N/A       |
|                               | I2of5            | Enabled/Disabled | Enabled   | Enabled   | N/A       | N/A       | N/A       |
|                               | CODABAR          | Enabled/Disabled | Enabled   | Enabled   | N/A       | N/A       | N/A       |
|                               | GS1-128          | Enabled/Disabled | Enabled   | Enabled   | N/A       | N/A       | N/A       |
|                               | CODE93           | Enabled/Disabled | Enabled   | Enabled   | N/A       | N/A       | N/A       |
|                               | CODE35           | Enabled/Disabled | Enabled   | Enabled   | N/A       | N/A       | N/A       |
|                               | BooklandEAN      | Enabled/Disabled | Disabled  | Disabled  | N/A       | N/A       | N/A       |
|                               | EAN13withAddon   | Enabled/Disabled | Disabled  | Disabled  | N/A       | N/A       | N/A       |
|                               | EAN8withAddon    | Enabled/Disabled | Disabled  | Disabled  | N/A       | N/A       | N/A       |
|                               | UPCAwithAddon    | Enabled/Disabled | Disabled  | Disabled  | N/A       | N/A       | N/A       |
| UPCEwithAddon                 | Enabled/Disabled | Disabled         | Disabled  | N/A       | N/A       | N/A       |           |
| <b>Set Barcodes (420/425)</b> | 1D Symbology     | Codabar          | N/A       | N/A       | Enabled   | Enabled   | N/A       |
|                               |                  | Code 11          | N/A       | N/A       | Enabled   | Enabled   | N/A       |
|                               |                  | Code 32          | N/A       | N/A       | Enabled   | Enabled   | N/A       |
|                               |                  | Code 39          | N/A       | N/A       | Enabled   | Enabled   | N/A       |
|                               |                  | Code 93          | N/A       | N/A       | Enabled   | Enabled   | N/A       |
|                               |                  | Code 128         | N/A       | N/A       | Enabled   | Enabled   | N/A       |
|                               |                  | EAN-8            | N/A       | N/A       | Enabled   | Enabled   | N/A       |
|                               |                  | EAN-13           | N/A       | N/A       | Enabled   | Enabled   | N/A       |
|                               |                  | GS1 Composite    | N/A       | N/A       | Enabled   | Enabled   | N/A       |
|                               |                  | I2of5            | N/A       | N/A       | Enabled   | Enabled   | N/A       |
|                               |                  | Matrix 2of5      | N/A       | N/A       | Enabled   | Enabled   | N/A       |
|                               |                  | MSI              | N/A       | N/A       | Enabled   | Enabled   | N/A       |
|                               |                  | Plessey          | N/A       | N/A       | Enabled   | Enabled   | N/A       |
|                               |                  | PosiCode         | N/A       | N/A       | Enabled   | Enabled   | N/A       |
|                               |                  | GS1 Omni         | N/A       | N/A       | Enabled   | Enabled   | N/A       |
|                               |                  | GS1 Limited      | N/A       | N/A       | Enabled   | Enabled   | N/A       |
|                               |                  | GS1 Expanded     | N/A       | N/A       | Enabled   | Enabled   | N/A       |
|                               |                  | S2of5 Ind        | N/A       | N/A       | Enabled   | Enabled   | N/A       |
|                               |                  | S2of5 IATA       | N/A       | N/A       | Enabled   | Enabled   | N/A       |
|                               |                  | TCL39            | N/A       | N/A       | Enabled   | Enabled   | N/A       |
| Telepen                       | N/A              | N/A              | Enabled   | Enabled   | N/A       |           |           |
| Trioptic                      | N/A              | N/A              | Enabled   | Enabled   | N/A       |           |           |

|                                  |                           |                  |          |          |          |          |     |
|----------------------------------|---------------------------|------------------|----------|----------|----------|----------|-----|
|                                  |                           | UPCA             | N/A      | N/A      | Enabled  | Enabled  | N/A |
|                                  |                           | UPCE0            | N/A      | N/A      | Enabled  | Enabled  | N/A |
|                                  |                           | UPCE1            | N/A      | N/A      | Enabled  | Enabled  | N/A |
|                                  | 2D Symbology              | AztecCode        | N/A      | N/A      | Enabled  | Enabled  | N/A |
|                                  |                           | AztecRunes       | N/A      | N/A      | Enabled  | Enabled  | N/A |
|                                  |                           | CodablockF       | N/A      | N/A      | Enabled  | Enabled  | N/A |
|                                  |                           | Code16K          | N/A      | N/A      | Enabled  | Enabled  | N/A |
|                                  |                           | Code49           | N/A      | N/A      | Enabled  | Enabled  | N/A |
|                                  |                           | DataMatrix       | N/A      | N/A      | Enabled  | Enabled  | N/A |
|                                  |                           | MaxiCode         | N/A      | N/A      | Enabled  | Enabled  | N/A |
|                                  |                           | MicroPDF         | N/A      | N/A      | Enabled  | Enabled  | N/A |
|                                  |                           | PDF417           | N/A      | N/A      | Enabled  | Enabled  | N/A |
|                                  |                           | QRCode           | N/A      | N/A      | Enabled  | Enabled  | N/A |
|                                  |                           | HanXin Code      | N/A      | N/A      | Enabled  | Enabled  | N/A |
|                                  | Postal Codes              | Postnet          | N/A      | N/A      | Enabled  | Enabled  | N/A |
|                                  |                           | PlanetCode       | N/A      | N/A      | Enabled  | Enabled  | N/A |
|                                  |                           | UK Post          | N/A      | N/A      | Enabled  | Enabled  | N/A |
|                                  |                           | Canada Post      | N/A      | N/A      | Enabled  | Enabled  | N/A |
|                                  |                           | Kix Post         | N/A      | N/A      | Enabled  | Enabled  | N/A |
|                                  |                           | Australia Post   | N/A      | N/A      | Enabled  | Enabled  | N/A |
|                                  |                           | Japan Post       | N/A      | N/A      | Enabled  | Enabled  | N/A |
|                                  |                           | China Post       | N/A      | N/A      | Enabled  | Enabled  | N/A |
|                                  | Korea Post                | N/A              | N/A      | Enabled  | Enabled  | N/A      |     |
|                                  | OCR                       | OCR Off          | N/A      | N/A      | Enabled  | Enabled  | N/A |
|                                  |                           | OCR A            | N/A      | N/A      | Disabled | Disabled | N/A |
|                                  |                           | OCR B            | N/A      | N/A      | Disabled | Disabled | N/A |
|                                  |                           | OCR USC          | N/A      | N/A      | Disabled | Disabled | N/A |
|                                  |                           | OCR MICR         | N/A      | N/A      | Disabled | Disabled | N/A |
|                                  |                           | OCR SEMI         | N/A      | N/A      | Disabled | Disabled | N/A |
| <b>Barcode Options (410/415)</b> | CodaBar_NoStartStop Chars | Enabled/Disabled | Disabled | Disabled | N/A      | N/A      | N/A |
|                                  | UPCE_as_UPCA              | Enabled/Disabled | Disabled | Disabled | N/A      | N/A      | N/A |
|                                  | EAN8_as_EAN13             | Enabled/Disabled | Disabled | Disabled | N/A      | N/A      | N/A |
|                                  | UPCE_as_EAN13             | Enabled/Disabled | Disabled | Disabled | N/A      | N/A      | N/A |
|                                  | ReturnCheckDigit          | Enabled/Disabled | Disabled | Disabled | N/A      | N/A      | N/A |
|                                  | VerifyCheckDigit          | Enabled/Disabled | Disabled | Disabled | N/A      | N/A      | N/A |
|                                  | UPCA_as_EAN13             | Enabled/Disabled | Disabled | Disabled | N/A      | N/A      | N/A |
|                                  | l2of5_VerifyCheckDigit    | Enabled/Disabled | Disabled | Disabled | N/A      | N/A      | N/A |
|                                  | Code39_VerifyCheckDigit   | Enabled/Disabled | Disabled | Disabled | N/A      | N/A      | N/A |
|                                  | l2of5_ReturnCheckDigit    | Enabled/Disabled | Disabled | Disabled | N/A      | N/A      | N/A |
|                                  | Code39_ReturnCheckDigit   | Enabled/Disabled | Disabled | Disabled | N/A      | N/A      | N/A |
|                                  | UPCE_ReturnCheckDigit     | Enabled/Disabled | Enabled  | Enabled  | N/A      | N/A      | N/A |
|                                  | UPCA_ReturnCheckDigit     | Enabled/Disabled | Enabled  | Enabled  | N/A      | N/A      | N/A |
|                                  | EAN8_ReturnCheckDigit     | Enabled/Disabled | Enabled  | Enabled  | N/A      | N/A      | N/A |

|                                  | EAN13_ReturnCheck Digit        | Enabled/Disabled                                   | Enabled | Enabled  | N/A         | N/A         | N/A |
|----------------------------------|--------------------------------|--|---------|----------|-------------|-------------|-----|
| <b>Barcode Options (420/425)</b> | Codabar                        | Tx StartStop(Enable/disable)                       | N/A     | N/A      | Disabled    | Disabled    | N/A |
|                                  |                                | Check Digit(DoNotVerify/VerifyDONotTX/Verify DoTx) | N/A     | N/A      | DoNotVerify | DoNotVerify | N/A |
|                                  |                                | Concatenate(Disable/Enable/Required)               | N/A     | N/A      | Enabled     | Enabled     | N/A |
|                                  | Code39                         | Tx StartStop(Enable/disable)                       | N/A     | N/A      | Disabled    | Disabled    | N/A |
|                                  |                                | Check Digit(DoNotVerify/VerifyDONotTX/Verify DoTx) | N/A     | N/A      | DoNotVerify | DoNotVerify | N/A |
|                                  |                                | Append(Enable/Disable)                             | N/A     | N/A      | Disabled    | Disabled    | N/A |
|                                  |                                | Full ASCII(Enable/Disable)                         | N/A     | N/A      | Disabled    | Disabled    | N/A |
|                                  | I2of5                          | Check Digit(DoNotVerify/VerifyDONotTX/Verify DoTx) | N/A     | N/A      | DoNotVerify | DoNotVerify | N/A |
|                                  | Code11                         | Check Digit(2 digits/1 digit)                      | N/A     | N/A      | 2 digits    | 2 digits    | N/A |
|                                  | Code128                        | Concatenate(Disable/Enable)                        | N/A     | N/A      | Disabled    | Disabled    | N/A |
|                                  | Telepen                        | Output(Original/AIM)                               | N/A     | N/A      | AIM         | AIM         | N/A |
|                                  | UPCA                           | VerifyChkDgt(Enabled/Disabled)                     | N/A     | N/A      | Enabled     | Enabled     | N/A |
|                                  |                                | NumberSys(Enabled/Disabled)                        | N/A     | N/A      | Enabled     | Enabled     | N/A |
|                                  |                                | 2DgtAddenda(Enabled/Disabled)                      | N/A     | N/A      | Disabled    | Disabled    | N/A |
|                                  |                                | 5DgtAddenda(Enabled/Disabled)                      | N/A     | N/A      | Disabled    | Disabled    | N/A |
|                                  |                                | Req. Addenda(Enabled/Disabled)                     | N/A     | N/A      | Disabled    | Disabled    | N/A |
|                                  |                                | Sep. Addenda(Enabled/Disabled)                     | N/A     | N/A      | Enabled     | Enabled     | N/A |
|                                  |                                | Coupon Code(Enabled/Disabled)                      | N/A     | N/A      | Enabled     | Enabled     | N/A |
|                                  | UPCE                           | Expand(Enabled/Disabled)                           | N/A     | N/A      | Disabled    | Disabled    | N/A |
|                                  |                                | Req. Addenda(Enabled/Disabled)                     | N/A     | N/A      | Disabled    | Disabled    | N/A |
|                                  |                                | Sep. Addenda(Enabled/Disabled)                     | N/A     | N/A      | Enabled     | Enabled     | N/A |
|                                  |                                | Check Digit(Enabled/Disabled)                      | N/A     | N/A      | Enabled     | Enabled     | N/A |
|                                  |                                | NumberSys(Enabled/Disabled)                        | N/A     | N/A      | Enabled     | Enabled     | N/A |
|                                  |                                | 2DgtAddenda(Enabled/Disabled)                      | N/A     | N/A      | Disabled    | Disabled    | N/A |
|                                  |                                | 5DgtAddenda(Enabled/Disabled)                      | N/A     | N/A      | Disabled    | Disabled    | N/A |
|                                  | EAN-13                         | VerifyChkDgt(Enabled/Disabled)                     | N/A     | N/A      | Enabled     | Enabled     | N/A |
|                                  |                                | 2DgtAddenda(Enabled/Disabled)                      | N/A     | N/A      | Disabled    | Disabled    | N/A |
|                                  |                                | 5DgtAddenda(Enabled/Disabled)                      | N/A     | N/A      | Disabled    | Disabled    | N/A |
|                                  |                                | Req. Addenda(Enabled/Disabled)                     | N/A     | N/A      | Disabled    | Disabled    | N/A |
|                                  |                                | Sep. Addenda(Enabled/Disabled)                     | N/A     | N/A      | Enabled     | Enabled     | N/A |
| ISBN Trans.(Enabled/Disabled)    |                                | N/A  | N/A     | Disabled | Disabled    | N/A         |     |
| EAN-8                            | VerifyChkDgt(Enabled/Disabled) | N/A  | N/A     | Enabled  | Enabled     | N/A         |     |
|                                  | 2DgtAddenda(Enabled/Disabled)  | N/A  | N/A     | Disabled | Disabled    | N/A         |     |
|                                  | 5DgtAddenda(Enabled/Disabled)  | N/A  | N/A     | Disabled | Disabled    | N/A         |     |

|                     |   |  |               |               |               |               |               |
|---------------------|---|--|---------------|---------------|---------------|---------------|---------------|
|                     |   | Req. Addenda(Enabled/Disabled)                     | N/A           | N/A           | Disabled      | Disabled      | N/A           |
|                     |   | Sep. Addenda(Enabled/Disabled)                     | N/A           | N/A           | Enabled       | Enabled       | N/A           |
|                     | MSI   | Tx CheckChar(Enabled/Disabled)                     | N/A           | N/A           | Disabled      | Disabled      | N/A           |
|                     | PosiCode  | A and B/A&B LimitedA/A&B LimitedB                  | N/A           | N/A           | A&B LimitedB  | A&B LimitedB  | N/A           |
|                     | GS1   | UPCEAN Ver.(Enabled/Disabled)                      | N/A           | N/A           | Disabled      | Disabled      | N/A           |
|                     |   | GS1 Emulation(No Emulate/GS1 128 Emul/GS1 Emulate) | N/A           | N/A           | No Emulate    | No Emulate    | N/A           |
|                     | PostNet   | Tx CheckChar(Enabled/Disabled)                     | N/A           | N/A           | Disabled      | Disabled      | N/A           |
|                     | PlanetCode  | Tx CheckChar(Enabled/Disabled)                     | N/A           | N/A           | Disabled      | Disabled      | N/A           |
| <b>Scan Options</b> | Scan Angle  | Narrow/Wide  | Wide          | Wide          | N/A           | N/A           | N/A           |
|                     | Filter  | Normal/High  | Normal        | Normal        | N/A           | N/A           | N/A           |
|                     | Time Out  | .5 seconds to 10 seconds                           | 2 second(s)   | 2 second(s)   | 2 second(s)   | 2 second(s)   | N/A           |
|                     | Min. Barcode Length                               | 2 to 36 characters                                 | 4 chars       | 4 chars       | 4 chars       | 4 chars       | N/A           |
|                     | Security Level                                    | 1 to 4 level                                       | 2 level       | 2 level       | N/A           | N/A           | N/A           |
|                     | Image Capture                                     | Enabled/Disabled                                   | N/A           | N/A           | Disabled      | Disabled      | N/A           |
|                     | Auto Trigger                                      | Enabled/Disabled                                   | Disabled      | Disabled      | Disabled      | Disabled      | N/A           |
|                     | Reread Delay                                      | Continuous, Short, Medium, Long, Extra Long        | Medium        | Medium        | Medium        | Medium        | N/A           |
|                     | Finger Trigger                                    | Enabled/Disabled                                   | N/A           | N/A           | N/A           | N/A           | N/A           |
|                     | Partial Display                                   | Start Position                                     |               | N/A           | N/A           | N/A           | N/A           |
| No. of Char(s)      |   |  | N/A           | N/A           | N/A           | N/A           | N/A           |
| Action              |   |  | N/A           | N/A           | N/A           | N/A           | N/A           |
| <b>Data Process</b> | Wedge / Store                                     | Wedge Only   |               |               |               |               | Default       |
|                     |   | Wedge & Store Always                               | Default       | Default       | Default       | Default       |               |
|                     |   | Store Only   |               |               |               |               |               |
|                     |   | Save if Sent                                       |               |               |               |               |               |
|                     |   | Save if Not Sent                                   |               |               |               |               |               |
|                     | Data Format                                       | Barcode only                                       | Default       | Default       | Default       | Default       | N/A           |
|                     |   | Packet Data  |               |               |               |               |               |
|                     | Data Editor/Prefix                                | Delete   | Delete        | Delete        | Delete        | Delete        | N/A           |
|                     | Data Editor/Suffix                                | Delete   | Delete        | Delete        | Delete        | Delete        | N/A           |
|                     | Data Editor/AIM ID                                | None/In Prefix/In Suffix                           | None          | None          | None          | None          | N/A           |
|                     | Data Editor/Partial Data                          | Start Position                                     | 1             | 1             | 1             | 1             | N/A           |
|                     |   | No. of Char(s)                                     | 0 chars       | 0 chars       | 0 chars       | 0 chars       | N/A           |
|                     |   | Action   | Select        | Select        | Select        | Select        | N/A           |
|                     | Handshake   | Enabled/Disabled                                   | Disabled      | Disabled      | Disabled      | Disabled      | N/A           |
| Terminator          | None, CR, LF, CR+LF, Tab Right/Left/Down/Up Arrow | CR+LF  | CR+LF         | CR+LF         | CR+LF         | CR+LF         |               |
| Chk Duplicate       | Enabled/Disabled                                  | Disabled   | Disabled      | Disabled      | Disabled      | N/A           |               |
| <b>BT Config</b>    | ConnectDevice                                     | SPP  | Default(410)  | Default(415)  | Default(420)  | Default(425)  | Default(430)  |
|                     |   | HID iOS  |               |               |               |               |               |
|                     |   | iPhone   | Default(410i) | Default(415i) | Default(420i) | Default(425i) | Default(430i) |

|                       |                               |  |             |             |             |             |             |
|-----------------------|-------------------------------|--|-------------|-------------|-------------|-------------|-------------|
|                       |                               | SPP2.0   |             |             |             |             |             |
|                       |                               | HID normal                                       |             |             |             |             |             |
|                       | Auto Connect                  | Enabled/Disabled                                 | Disabled    | Disabled    | Disabled    | Disabled    | Disabled    |
|                       | Auto Power On                 | Enabled/Disabled                                 | Disabled    | Disabled    | Disabled    | Disabled    | Disabled    |
|                       | Auto Power On/Power On Time   | Disable, 1sec to 10second(s)                     | Disabled    | Disabled    | Disabled    | Disabled    | Disabled    |
|                       | Auto Power Off                | Enabled/Disabled                                 | Disabled    | Disabled    | Disabled    | Disabled    | Disabled    |
|                       | Auto Power Off/Beep Warning   | Enabled/Disabled                                 | Disabled    | Disabled    | Disabled    | Disabled    | Disabled    |
|                       | Auto Power Off/Power Off Time | 1 to 30 minutes                                  | 5 minutes   | 5 minutes   | 5 minutes   | 5 minutes   | 5 minutes   |
|                       | PowerOff Msg                  | Enabled/Disabled                                 | Disabled    | Disabled    | Disabled    | Disabled    | Disabled    |
|                       | MAC Address                   | 12 Characters <i>Bluetooth</i> MAC Address       | N/A         | N/A         | N/A         | N/A         | N/A         |
|                       | BT FW Version                 | Bluetooth Firmware Version                       | N/A         | N/A         | N/A         | N/A         | N/A         |
|                       | Wakeup Nulls                  | Enabled/Disabled                                 | Disabled    | Disabled    | Disabled    | Disabled    | Disabled    |
|                       | BT Toggle                     |  | Enabled     | Enabled     | Enabled     | Enabled     | Enabled     |
|                       | HID AutoLock                  | Disabled,1,2,3,4,5,10,15 minutes                 | 1 minutes   | 1 minutes   | 1 minutes   | 1 minutes   | 1 minutes   |
|                       | HID Keyboard                  | English,German,French,Italian,Spanish            | US          | US          | US          | US          | US          |
|                       | HID Delay/Initial             | Disabled, 1,2,3,5,10 secs                        | Disabled    | Disabled    | Disabled    | Disabled    | Disabled    |
|                       | HID Delay/Inter char          | Disabled,10, 20, 30, 50, 100msec                 | Disabled    | Disabled    | Disabled    | Disabled    | Disabled    |
|                       | HID Ctrl Char                 | Disabled, Alt+Numpad, ^+Character                | Disabled    | Disabled    | Disabled    | Disabled    | Disabled    |
| <b>BT Service</b>     | Power                         | Enabled/Disabled                                 | Enabled     | Enabled     | Enabled     | Enabled     | Enabled     |
|                       | Pairing                       | Pairing neighboring Bluetooth devices            |             |             |             |             |             |
|                       | Discovering                   | Discovering neighboring <i>Bluetooth</i> devices | N/A         | N/A         | N/A         | N/A         | N/A         |
|                       | Connecting to                 | View Connect to <i>Bluetooth</i> device          | N/A         | N/A         | N/A         | N/A         | N/A         |
|                       | HID Sync                      |  |             |             |             |             |             |
| <b>sSystem Config</b> | Memory Size(3.0 only)         | 0.5/3.5, 1/3, 2/2, 3/1, 4/0                      | N/A         | N/A         | N/A         | N/A         | N/A         |
|                       | Memory Status                 | No. of Stored Barcodes                           | N/A         | N/A         | N/A         | N/A         | N/A         |
|                       |                               | Free Memory Available                            | N/A         | N/A         | N/A         | N/A         | N/A         |
|                       | Reset Memory                  | Memory(Empties Data)                             |             |             |             |             |             |
|                       |                               | Application Memory                               | N/A         | N/A         | N/A         | N/A         | N/A         |
|                       |                               | BT Registry(KDC100 Not use)                      | N/A         | N/A         | N/A         | N/A         | N/A         |
|                       | Auto Erase                    | Enabled/Disabled                                 | Disable     | Disable     | Disable     | Disable     | Disable     |
|                       | Sleep Timeout                 | Disable, 1sec to 10minute(s)                     | 5 second(s) |
|                       | Date / Time                   | YYYY:MM:DD &                                     | N/A         | N/A         | N/A         | N/A         | N/A         |
|                       |                               | HH:MM:SS   | N/A         | N/A         | N/A         | N/A         | N/A         |
|                       | Battery                       | % of Battery Charge Available                    | N/A         | N/A         | N/A         | N/A         | N/A         |
|                       | Version                       | Firmware Version & Serial No.                    | N/A         | N/A         | N/A         | N/A         | N/A         |
|                       | Button Lock                   | Enabled/Disabled                                 | Disabled    | Disabled    | Disabled    | Disabled    | Disabled    |
|                       | Beep Sound                    | Enabled/Disabled                                 | Enabled     | Enabled     | Enabled     | Enabled     | Enabled     |
|                       | Beep Volume                   | Low/High   | Low         | Low         | Low         | Low         | Low         |
| Auto Exit             | Enabled/Disabled              | N/A  | N/A         | N/A         | N/A         | N/A         |             |
| Port Status           | Enabled/Disabled              | N/A  | N/A         | N/A         | N/A         | N/A         |             |

|                   |                       |  |         |          |          |          |          |
|-------------------|-----------------------|--|---------|----------|----------|----------|----------|
|                   | Display Format        | Time & Battery / Type & Time / Type & Battery / Memory Status / GPS Data(KDC250 only)/Barcode Only | N/A     | N/A      | N/A      | N/A      | N/A      |
|                   | Menu Barcode          | Enabled/Disabled   | N/A     | N/A      | Disabled | Disabled | N/A      |
|                   | Scrolling             | Enabled/Disabled   | N/A     | N/A      | N/A      | N/A      | N/A      |
|                   | Brightness            | 1 to 15 level(8 level)   | N/A     | N/A      | N/A      | N/A      | N/A      |
|                   | Factory Default       | Restores Default Settings  |         |          |          |          |          |
| <b>MSR Config</b> | Data Format           | MSR Data Only  | Default | Default  | Default  | Default  | N/A      |
|                   |                       | Packet Data  |         |          |          |          |          |
|                   | Track Separator       |  | N/A     | CR+LF    | N/A      | CR+LF    | CR+LF    |
|                   | Use Track1            |  | N/A     | Yes      | N/A      | Yes      | Yes      |
|                   | Use Track2            |  | N/A     | Yes      | N/A      | Yes      | Yes      |
|                   | Use Track3            |  | N/A     | Yes      | N/A      | Yes      | Yes      |
|                   | Beep on error reading | Enabled/Disabled   | N/A     | Disabled | N/A      | Disabled | Disabled |
|                   | Encryption            | Enabled/Disabled   | N/A     | Enabled  | N/A      | Disabled | Disabled |

Table 3 - KDC Menu Options

## Set Barcodes Menu

This menu lists all the barcode symbologies supported by your KDC and allows you to select the barcode symbologies you will be scanning. For maximum scan performance, you should select only the symbologies you are scanning. Please refer to Appendix A – Symbologies for a detailed listing of symbologies supported by your KDC.

## Code Options Menu

Your KDC supports various Code Options including Transmission of Start and Stop Characters, Symbology Conversion, Verification of Optional Check Character, Transmission of Check Digit, and Concatenate. Please refer to the Honeywell IT5x80 reference manual for a detailed listing of Code Options for the symbologies supported by the KDC.

## Scan Options Menu

- Timeout: Allows you to set the length of time before the KDC will stop scanning a barcode from .5 second up to 10 seconds. The default is 2 seconds.
- Minimum Barcode Length: Allows you to set a barcode length from 2 characters to 36 characters (KDC410/415) or 2 characters to 48 characters (KDC420/425). It is strongly recommended that you maximize the minimum barcode length setting to prevent possible errors.
  - The default minimum barcode length of KDC410/415 is 4 characters.
  - The default minimum barcode length of KDC420/425 is as follows:

|                 |              | Minimum (Default) | Maximum (Default) |
|-----------------|--------------|-------------------|-------------------|
| 1D<br>Symbology | Codabar      | 2(4)              | 60(60)            |
|                 | Code 11      | 1(4)              | 80(80)            |
|                 | Code 32      |                   |                   |
|                 | Code 39      | 0(0)              | 48(48)            |
|                 | Code 93      | 0(0)              | 80(80)            |
|                 | Code 128     | 0(0)              | 80(80)            |
|                 | EAN-8        |                   |                   |
|                 | EAN-13       |                   |                   |
|                 | GS1 Composit |                   |                   |
|                 | I2of5        | 2(4)              | 80(80)            |
|                 | Matrix 2of5  | 1(4)              | 80(80)            |

|                 |                |        |            |
|-----------------|----------------|--------|------------|
|                 | MSI            | 4(4)   | 48(48)     |
|                 | Plessey        | 4(4)   | 48(48)     |
|                 | PosiCode       | 2(4)   | 80(48)     |
|                 | GS1 Omni       |        |            |
|                 | GS1 Limited    |        |            |
|                 | GS1 Expanded   | 4(4)   | 74(74)     |
|                 | S2of5 Ind      | 1(4)   | 48(48)     |
|                 | S2of5 IATA     | 1(4)   | 48(48)     |
|                 | TCL39          |        |            |
|                 | Telepen        | 1(1)   | 60(60)     |
|                 | Trioptic       |        |            |
|                 | UPCA           |        |            |
|                 | UPCE0          |        |            |
|                 | UPCE1          |        |            |
| 2D<br>Symbology | AztecCode      | 1(1)   | 3750(3750) |
|                 | AztecRunes     |        |            |
|                 | CodablockF     | 1(1)   | 2048(2048) |
|                 | Code16K        | 0(1)   | 160(160)   |
|                 | Code49         | 1(1)   | 81(81)     |
|                 | DataMatrix     | 1(1)   | 1500(1500) |
|                 | MaxiCode       | 1(1)   | 150(150)   |
|                 | MicroPDF       | 1(1)   | 366(366)   |
|                 | PDF417         | 1(1)   | 2750(2750) |
|                 | QRCode         | 1(1)   | 3500(3500) |
| HanXin Code     |                |        |            |
| Postal Codes    | Postnet        |        |            |
|                 | PlanetCode     |        |            |
|                 | UK Post        |        |            |
|                 | Canada Post    |        |            |
|                 | Kix Post       |        |            |
|                 | Australia Post |        |            |
|                 | Japan Post     |        |            |
|                 | China Post     | 2(4)   | 80(80)     |
| Korea Post      | 2(4)           | 80(48) |            |
| OCR             | OCR Off        |        |            |
|                 | OCR A          |        |            |
|                 | OCR B          |        |            |
|                 | OCR USC        |        |            |

|  |          |  |  |
|--|----------|--|--|
|  | OCR MICR |  |  |
|  | OCR SEMI |  |  |

Table 4 – KDC420/425 Minimum Barcode Length

- Image Capture (KDC420/425 only): Allows you to capture an image in JPEG format in C:\myData folder. User should enable the image capture option first then press the scan button to start the aiming. Green aiming light will illuminate and take an image upon release of the scan button. KDC300 will disable the image capture option if user presses the scan button for 10 seconds.
- Auto Trigger: Allows users to scan a barcode automatically once Auto Trigger is enabled. User can adjust Reread delay from Continuous to Extra Long. Auto Trigger mode always enables duplicate check option.  
*[Note1] USB cable insertion requirement is removed from FW2.85/86.0 and FW 3.02.*  
*[Note2] Users can exit the auto trigger mode by pressing the scan button for 3 seconds.*
- Reread Delay: Users can adjust Reread delay from Continuous to Extra Long. Auto Trigger mode always enables duplicate check option.
- Partial Display: Allows you to display partial data. User defines the start position and number of characters to be displayed.

## Data Process Menu

**Wedge/Store** - The KDC provides five modes of data transmission in keyboard wedging mode.

- Wedge Only: Barcode data is NOT stored in memory but transmitted to the host.
- Wedge & Store Only: Barcode data is stored in memory and transmitted to the host.
- Store Only: Barcode data is stored in memory but NOT transmitted to the host.
- Save if Sent: If data transmission is successful, barcode data is stored in memory.
- Save if Not Sent: If data transmission is NOT successful, barcode data is stored in memory.

**Data Format** - The KDC provides two data formats, Barcode Only and Packet Data.

- Barcode Only: KDC transmits scanned barcodes only. User may incorporate proper data transmission error detection and correction mechanism in this mode.
  - KDC supports various termination characters for barcode only format.
  - User can select <NONE>, <CR>, <LF>, <CR+LF> or <TAB> as the termination character.
- Packet Data: KDC transmits packet data with checksum to minimize transmission errors.

- KTSync® sets Data Format to Packet Data format upon execution.
- User may change Data Format to Barcode only if user prefers to use Barcode only mode but either KTSync program terminates abnormally or user disconnects KDC without exiting KTSync program normally.

*[Note] Barcode Index: KDC200i/250i/300i/400i add 4 bytes barcode index to maintain last synchronized barcode information. This optional index would be added if data format is "Packet Data" and*

*(1) 4 bytes index would be added before "@" when responding to "p" command*

*(2) 4 bytes index plus "@" character would be added after checksum byte if user scan a barcode and wedging to the host*

**Data Editor** - KDC provides various data editing options.

- **Prefix** - Allows you to add a prefix to scanned data which can then be stored in KDC or wedged to the host. The Prefix format must be defined in the data format menu of KTSync. The maximum length for a Prefix is 11 characters.
  - ✓ **NOTE:** This Prefix option is different from the Prefix option in KTSync which appends the prefix to data during synchronization.
  - ✓ **NOTE:** User can also define prefix by scanning characters defined in Appendix C. between following special barcodes
  - ✓ **KDC410/415**

Prefix Enter Start



Prefix/Suffix Enter Finish



- ✓ **KDC420/425**

Prefix Enter Start



Prefix/Suffix Enter Finish



- ✓ **NOTE:** User can also delete or display current prefix by scanning following special barcodes

- ✓ **KDC410/415**

Delete Prefix



Display Prefix



- ✓ **KDC420/425**

Delete Prefix



Display Prefix



- **Suffix** - Allows you to add a suffix to scanned data which can then be stored in KDC or wedged to the host. The Suffix must be defined in the data format menu of KTSync. The maximum length for a Suffix is 11 characters.
  - ✓ **NOTE:** This Suffix option is different from the Suffix option in KTSync which appends the suffix to data during synchronization.
  - ✓ **NOTE:** User can also define suffix by scanning characters defined in Appendix C.18 ~ C.22 between following special barcodes

✓ **KDC410/415**

Suffix Enter Start



Prefix/Suffix Enter Finish



✓ **KDC420/425**

Suffix Enter Start



Prefix/Suffix Enter Finish



✓ **NOTE:** User can also delete or display current suffix by scanning following special barcodes

✓ **KDC410/415**

Delete Suffix



Display Suffix



✓ **KDC420/425**

Delete Suffix



## Display Suffix



- **AIM ID** - Allows you to add AIM ID to scanned data which can then be stored in KDC or wedged to the host. AIM ID must be defined in data format menu of KTSync. AIM ID is either added to the end of Prefix or Suffix.
- **Partial Data**: Allows you to store and/or transfer partial data. User defines the start position and number of characters to be stored and/or transferred.
  - Select the **x** characters from **y** position
    - ◆ Set Partial Data Start Position to **y**, Partial Data Length to **x**, Partial Data Action to Select
    - ◆ Partial Data Length **0** means Select all characters from **y** position.
  - Erase the **x** characters from **y** position
    - ◆ Set Partial Data Start Position to **y**, Partial Data Length to **x**, Partial Data Action to Erase
    - ◆ Partial Data Length **0** means Erase all characters from **y** position.

**Handshake** - KDC provides Handshake mode when Data Format is set to Packet Data.

- Handshake Mode will increase the reliability of barcode data transmission.
- The default mode for Handshake is Disabled.
- Data transmission speed is slower when Handshake Mode is Enabled.

**Terminator** – KDC supports various termination characters when the Data Format mode is set to Barcode Only. This option allows you to select <NONE>, <CR>, <LF>, <CR+LF>, or <TAB> as the termination character. The default terminator is <CR+LF>. Up/Down/Left/Right arrow terminator is also available for HID mode.

**Chk Duplicate** – This option allows you to prevent collecting duplicated data.

## *BT Config Menu - KDC200/250/300/400*

The KDC supports *Bluetooth* Ver2.1+EDR. Before utilizing the advantages of Bluetooth functionality with the KDC, you should become familiar with Bluetooth connectivity and its impact on your host environment.

Below is a listing of the Bluetooth options and their settings. The default settings for these options have been set to increase the usability of Bluetooth technology without compromising the KDC battery usage.

**[NOTE] We strongly recommend NOT changing these settings until you have fully tested the Bluetooth connection between the KDC and the host device.**

**[NOTE] KDC400 *Bluetooth* options would be configure either from KTSync or by scanning special barcodes. KTSync would provide limited Bluetooth options for KDC400.**

For more detailed information regarding Bluetooth functionality with the KDC, please refer to Chapter 4.

- ConnectDevice
  - SPP, SPP2.0
  - HID normal
  - HID iOS (KDC200i/250i/300i/400i)
  - iPhone (KDC200i/250i/300i/400i)
- Auto Connect - Enabled or Disabled
- Auto Power On - Enabled or Disabled
  - PWR On Time – Disabled, 1 to 10 seconds
- Auto Power Off - Enabled or Disabled (KDC250 should use option in system menu)
  - Beep Warning - Enabled or Disabled
  - PWR Off Time - 1 to 30 Minutes
- PowerOff Msg – Enabled or Disabled
- MAC Address – 12 characters *Bluetooth* MAC Address
- FW Version – Display *Bluetooth* Firmware Version
- Wakeup Nulls – Enabled or Disabled
- Autolock Time – 0, 1, 2, 3, 4, 5, 10, 15 minutes
- BT Toggle – Enable or Disable HID soft keyboard or iPhone mode connection On/Off toggle.
- HID AutoLock - Disabled, 1, 2, 3, 4, 5, 10, 15 minutes
- HID Keyboard – English, German, French, Spanish, Italian
- HID Initial Delay
  - Define the initial delay between 1sec to 10sec before data transmission in HID mode
- HID Inter-character Delay
  - Define the inter-character delay between 10msec to 100msec in HID mode
- HID Control Character
  - Map control characters to either ALT+Numlock or ^+Character

## *BT Service - KDC200/250/300/400*

- Power
  - Enable or Disable Bluetooth Power
- Pairing Mode
  - KDC enters pairing mode so that host *Bluetooth* device can search KDC.
  - KDC exits pairing mode either by pressing the scan button or it fails to pair with *Bluetooth* host device in 90sec.
- Discovering
  - Search neighborhood *Bluetooth* devices
- Connecting To
  - Inquiry to registered *Bluetooth* devices
- HID Sync
  - KDC transmits all stored data to the host over HID profile if HID Sync option is enabled

## *GPS Config - KDC250*

- GPS Power
  - Enable or Disable GPS Power
- Power Mode
  - Normal or Power Save
- Bypass Data
  - Enabled or Disabled
- Acquire Test
  - Acquiring time test of GPS signal
- Reset GPS
  - Reset GPS parameters

## System Menu

- Memory Size (3.0+ version only)
  - User can select normal data and application database memory partition size.
  - KDC will erase all stored data upon changing the partition size.
  - User should enter the following key sequence to change the partition.
    - <Up key> + <Up key> + <Down key> + <Down key> + <Scan button>
- Memory Status: Checks the number of stored barcodes and memory usage.
- Reset Memory: Resets KDC memory by erasing all stored barcodes, application and BT registry.
- Auto Erase: Erases all stored barcodes upon reaching buffer full condition if Enabled is selected
- Sleep Timeout: Sets amount of time KDC waits, when not being used, before going to *sleep*.
- Auto Power Off (KDC250 only)
  - Bluetooth: Enabled/Disabled
  - GPS: Enabled/Disabled
  - Power Off Time:0(Never), 5, 10, 20, 30, 60, 120 seconds
- Date/Time: Sets the date and time of KDC which can also be set using KTSync<sup>®</sup>
- Battery: Shows current status of battery power level.
- Version: Shows KDC firmware version and serial number.
- Button Lock: Locks or unlocks KDC scan and scroll buttons.
- Beep Sound: Enables or disables KDC beep sound.
- Beep Volume: High or low.
- Auto Exit: Enables KDC to automatically exit KDC Menus.
- Port Status: Enables or disables KDC port messages.
- Display Format: Selection of display format - Time & Battery, Type & Time, Type & Battery, Memory Status and Barcode only
- Menu Barcode: Enables or disables Honeywell special barcodes
- Scrolling : Enables or disables display scrolling for a barcode with more than 40 characters
- Brightness: Adjusts display brightness
- Factory Default: Resets KDC options to factory default settings.

## 3.4 LED Status

---

### *KDC100/200/250/300*

| LED Color | Status  |
|-----------|---|
| Green     | <ul style="list-style-type: none"> <li>● Successful Reading</li> <li>● USB is connected and battery is fully charged</li> </ul> |
| Orange    | <ul style="list-style-type: none"> <li>● Low battery</li> <li>● USB is connected and battery is charging</li> </ul>             |
| Red       | <ul style="list-style-type: none"> <li>● No reading</li> <li>● Empty battery</li> </ul>   |

### *KDC400*

| LED Color | Status   |
|-----------|--|
| Green     | <ul style="list-style-type: none"> <li>● Successful Reading</li> <li>● USB is connected and battery is fully charged</li> <li>● iPhone mode</li> </ul> |
| Orange    | <ul style="list-style-type: none"> <li>● Low battery</li> <li>● USB is connected and battery is charging</li> <li>● HID mode</li> </ul>                |
| Red       | <ul style="list-style-type: none"> <li>● No reading</li> <li>● SPP mode</li> </ul>   |

*Table 5 - Explanation of LEDs*

## 3.5 Empty Battery

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### KDC100/200/250/300

The KDC will display the message **Empty Battery Connect USB** when the battery is empty. Please charge the KDC IMMEDIATELY to prevent data collecting interruption.

### KDC400

- Under 30% - Orange LED blinks 1 second interval during 5 seconds in every minute
- Under 20% - Red LED blinks 1 second interval during 10 seconds in every minute
- Under 10% - Red LED blinks 1 second interval during 10 seconds in every minute and beeper sounds simultaneously

## 3.6 Buffer Full (KDC100/200/250/300)

---

The KDC will display the message **Buffer Full** when the size of collected data reaches 80KB (85 version)/180KB(86 version) or the number of collected barcodes is 10,240. To prevent the loss of data, you should synchronize the data then reset the memory when this message displays.

4MB version KDC reaches Buffer Full condition as follows:

- 0.5MB Partition - Collected data size reaches 0.5MB or collected number is 25,600
- 1MB Partition - Collected data size reaches 1MB or collected number is 51,200
- 2MB Partition - Collected data size reaches 2MB or collected number is 102,400
- 3MB Partition - Collected data size reaches 3MB or collected number is 153,600
- 4MB Partition - Collected data size reaches 4MB or collected number is 204,800

## 3.7 Reset Feature (KDC100/200/250/300)

---

The Reset feature lets you restart the KDC if necessary without losing any stored barcode data or option settings. To reset the KDC, follow these steps.

1. Press DOWN scroll button and SCAN button simultaneously for 5 seconds.
2. When the LEDs illuminate yellow, release the buttons.
3. The KDC initial screen, **KoamTac Data Collector KDC** displays when reset is complete.

### Note:

*The KDC stores collected data into flash memory and will not lose data or the KDC settings during the reset process.*

## 3.8 Replace Battery

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KDC comes with a rechargeable Lithium- Polymer (KDC100/200) or Lithium-Ion (KDC250/300/400) battery. The battery is recharged from any USB port and can be recharged about 300 times before it needs to be replaced.

KoamTac recommends replacing the battery every six months as a declining battery will cause noticeable performance degradation in KDC. Replacement batteries can be purchased from a KoamTac distributor. Batteries should be disposed of properly.

The steps for replacing the KDC400 battery are as follows.

1. Disassemble the KDC400 smartphone case by unscrewing screws.
2. Remove old battery and replace with new battery.
3. Reassemble the KDC400 smartphone case.

## 4. BLUETOOTH - KDC200/250/300/400

The KDC200/250/300/400 support HID (Human Interface Device) and SPP (Serial Port Profile). KDC200i/250i/300i/400i support HID, SPP and MFI (Made for iPhone). They are compatible with the following Bluetooth stacks.

- BlueSoleil
- Broadcom (Widcomm)
- Microsoft Windows XP, Vista, 7, and Mobile5.0+
- Toshiba

KDC200/250/300 can configure *Bluetooth* options using KDC menu and special barcodes. KDC400 can configure Bluetooth options using PC KTSync and special barcodes.

### *Bluetooth Config*

#### 4.1 ConnectDevice

---

KDC supports both Serial Port Profile (SPP) and Human Interface Device Profile (HID). User can choose SPP2.0, SPP2.1, HID normal, HID iOS profiles to communicate with the host device. Additional iPhone option is available for KDC200i/250i/300i/400i models.

User can connect and disconnect Bluetooth connection with the host device by pressing Up and Down key if BT Toggle option in BT Config menu is enabled. It normally takes 3 seconds to connect and 1 second to disconnect.

This is a very useful feature for iPhone and iPad application. User can enable and disable iPhone and iPad soft key instantly using this BT Toggle option.

Up key shows Bluetooth connection status and Down key shows time if KDC is connected using SPP profile.

#### 4.2 Auto Connect

---

This feature allows the KDC to connect automatically to the host device when the KDC is powered on.

**IMPORTANT:** Until the host device and KDC have been fully tested, it is strongly recommended that this feature be set to Disable because a host device that does not support this feature can cause problems such as power loss or upload delays.

[Note] KDC tries to connect automatically to the host 10 times during two minutes if *Bluetooth* power is ON, *Bluetooth* is disconnected, Auto Connect is enabled and system Sleep Timeout is set to 5 seconds

## 4.3 Auto Power On

---

The Auto Power On option allows the KDC to automatically power on Bluetooth when the SCAN button is depressed. The default setting is Disabled.

[NOTE] The host may have to open the COM port before reconnecting with the KDC. Power on time determines the scan button pressing time to activate auto power on feature.

## 4.4 Auto Power Off

---

The Auto Power Off option works in conjunction with the PWR Off Time option. This option allows the KDC to power off Bluetooth automatically when the KDC is NOT CONNECTED to the host for the time duration specified in the PWR Off Time option.

The default for this option is Enabled. It is strongly recommended to keep it enabled to maximize the operation time of the KDC. If Auto Power Off is enabled, Bluetooth can be manually powered off before specified time in PWR Off Time option.

## 4.5 Beep Warning

---

The KDC beeps to acknowledge the status of the Bluetooth connection as follows:

1. One high short beep when Bluetooth is connected.
2. One low short when Bluetooth is disconnected.
3. Five short beeps if:
  - "Beep Warning is ENABLED"
  - "Auto Power Off is DISABLED"
  - "KDC200/200P/300 is DISCONNECTED from HOST"
  - "Bluetooth power is ON"

## 4.6 PWR OFF Time

---

The PWR Off Time option works in conjunction with the Auto Power Off option. If Auto Power Off is Enabled, the KDC powers off Bluetooth when the time duration specified in the PWR Off Time option is met and the KDC is NOT CONNECTED to the host. The time settings for this option are from one (1) minute to 30 minutes. The default is five (5) minutes.

## 4.7 PowerOFF Msg

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KDC sends "BTOFF@" message to the host before turning off KDC Bluetooth power if PowerOFF Message option is Enabled and KDC is connected.

## 4.8 MAC Address

---

User can verify KDC Bluetooth MAC Address.

## 4.9 FW Version

---

User can verify KDC Bluetooth firmware version in BT FW menu.

## 4.10 Wakeup Nulls

---

The KDC sends three leading Null bytes to wake up connected *Bluetooth* device. This feature can be disabled if connected *Bluetooth* device doesn't require additional bytes to wake up.

## 4.11 Autolock Time

---

iPhone/iPad/iPod touch loses incoming Bluetooth data in sleep mode. Users can set KDC Autolock time to the same Autolock time of your iPhone/iPad/iPod touch to use automatic wakeup feature in HID mode to prevent data loss. There would be a one second delay of barcode transmission if Autolock time is set to more than one minute and the barcode scan interval is larger than auto lock time. The autolock time would be set as 0, 1, 2, 3, 4, 5, 10, 15 minutes. 0 means iPhone/iPad/iPod touch never enters sleep mode.

**[Note] Certain iOS version may not wake up properly though users set Autolock time correctly.**

## 4.12 HID Keyboard

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User can select international keyboard – English, German, French, Spanish and Italian.

## 4.13 HID Initial and Inter-Character Delay

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Certain application can't process HID input fast enough and lose some characters during transmission. Users would increase initial and inter-character delay to prevent data lose during HID transmission

- HID Initial Delay
  - Define the initial delay between 1sec to 10sec before data transmission in HID mode
- HID Inter-character Delay
  - Define the inter-character delay between 10msec to 100msec in HID mode

## 4.14 Control character transmission in HID mode

Control characters between ASCII value 0x00 and 0x1F can be replaced by ALT+Numpad or ^+Character.

- Disabled → Transmit the original control character.
- Alt+Numpad → Transmit ASCII value using ALT+Numpad combination.
- ^+Character → Control characters would be substituted as following table.

| Control Char | Transmit Chars |
|--------------|----------------|--------------|----------------|--------------|----------------|--------------|----------------|
| 0x01         | ^A             | 0x0B         | ^K             | 0x14         | ^T             | 0x1D         | ^J             |
| 0x02         | ^B             | 0x0C         | ^L             | 0x15         | ^U             | 0x1E         | ^M             |
| 0x03         | ^C             | 0x0E         | ^N             | 0x16         | ^V             | 0x1F         | ^_             |
| 0x04         | ^D             | 0x0F         | ^O             | 0x17         | ^W             |              |                |
| 0x05         | ^E             | 0x10         | ^P             | 0x18         | ^X             |              |                |
| 0x06         | ^F             | 0x11         | ^Q             | 0x19         | ^Y             |              |                |
| 0x07         | ^G             | 0x12         | ^R             | 0x1A         | ^Z             |              |                |
| 0x09         | ^I             | 0x13         | ^S             | 0x1C         | ^\<br>^        |              |                |

## 4.15 Function key transmission in HID mode

Users can send F1 to F12 function keys by scanning special barcodes in HID mode.

## 4.16 Disconnect/Reconnect/HID Toggle

Users can disconnect or reconnect the Bluetooth connection or toggle soft keyboard using side buttons.

| Bluetooth Profile | UP Key    | DOWN Key  |
|-------------------|-----------|---|
| SPP               | Reconnect | Disconnect if pressing more than 3sec   |
| HIS iOS           | Reconnect | Soft Keyboard Toggle if pressing less than 3sec,<br>Disconnect if pressing more than 3sec |
| iPhone            | Reconnect | Disconnect if pressing more than 3sec   |
| SPP 2.0           | Reconnect | Disconnect if pressing more than 3sec   |
| HID normal        | Reconnect | Disconnect if pressing more than 3sec   |

# Bluetooth Service

## 4.17 Power

---

The POWER option allows you to Enable or Disable the Bluetooth functionality of the KDC. To use Bluetooth, this option must be set to Enable. However, like all devices enabled for Bluetooth, the KDC will search constantly to connect with a Bluetooth host when set to enable. Constant searching uses battery power. Unless you are using Bluetooth with your KDC, this option should be set to Disable.

**IMPORTANT:** To prevent unnecessary power problems, it is strongly recommended that the POWER option be set to Disable if the KDC is idle for an extended period of time.

## 4.18 Pairing

---

Before you are able to use Bluetooth, the KDC must be paired with the host device. This pairing process only needs to be completed once with each host device. After pairing, the host device will always recognize the KDC as a Bluetooth device unless the Bluetooth configuration is modified. If it is modified, you may need to pair the devices again.

**IMPORTANT:** The host device must be configured for Bluetooth before it can be paired to the KDC.

**[NOTE] KDC with Bluetooth Spec2.1+EDR doesn't prompt Pin code entry menu**

To pair the KDC with the host, follow these instructions.

1. Scan Pairing special barcode.
2. When prompted by the host device, enter the Security PIN "0000".
3. The "**Short beep**" will sound when the Bluetooth connection is successfully established. The connection must be established before the pairing timeout which is 60 seconds.

[Note] Users may have to use the host Bluetooth manager to connect KDC and host after pairing process.

## 4.19 Discovering

---

KDC200/250/300/400 starts to search neighboring *Bluetooth* device if this Discovering menu is executed. It would take about 30 seconds to finish search and lists available neighboring *Bluetooth* devices. Use may enter corresponding Bluetooth MAC address in KTSync Bluetooth menu instead of searching neighborhood *Bluetooth* devices.

## 4.20 Connect To

---

This option lets you easily connect KDC to *Bluetooth* devices either previously registered in KTSync under the File Menu or discovered/connected from KDC *Bluetooth* Service menu

[Note] There could be an interoperability issue depending on corresponding device *Bluetooth* stack. Master *Bluetooth* device may request to follow master *Bluetooth* device security procedure if KDC tries to connect to the master *Bluetooth* device.

## 4.21 HID Sync

---

User can synchronize stored barcode data over HID using HID Sync option. KDC starts to transmit all stored barcode data upon executing HID Sync option.

## 5. SYNCHRONIZATION

When barcode data is collected, it must be uploaded to your application. KTSync<sup>®</sup>, which is bundled with the KDC, is software that allows barcode data to be uploaded to any PC, PDA, or smartphone running Android 2.1+, Apple iOS3.1.3+, Blackberry, Mac and Windows XP/Vista/7/Mobile 5.0+. It has three major functions. Windows XP/Vista/7 version supports all of the following features. Tablet, PDA and Smartphone versions support only limited features of PC KTSync.

- Synchronization - Provides data upload functionality to your applications.
- Keyboard Emulator - Allows scanned data to upload directly into your application as if the data were being entered manually on a keyboard.
- Application Generation - Allows user to create custom applications or download predefined applications such as Master-Slave, Pick/Bin, DB Lookup and Inventory.

Additional functions include:

- Prefix and Suffix add-ons to eliminate manual data entry.
- Symbology and Scan Option selections.
- Barcode Wedging options.

### 5.1 KTSync Menu

---

KTSync<sup>®</sup> was installed on your PC during the initial installation process. Before data can be uploaded to any host device, KTSync<sup>®</sup> must be launched on the host and configured to recognize the KDC. The following screen displays when KTSync<sup>®</sup> is launched.

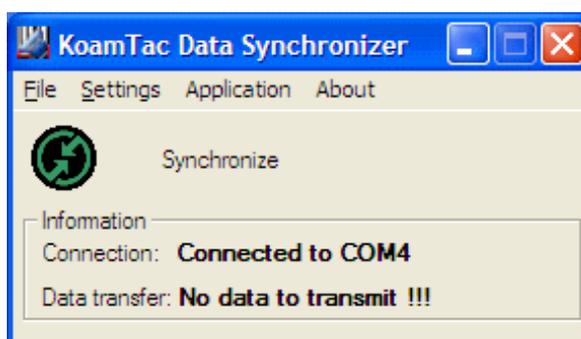


Figure 7 - KTSync<sup>®</sup> Synchronizer Menu

#### File Menu

- Connect: This option displays the Serial port (COM#) assigned to KDC. You can also use this option to manually assign the Serial port. The Serial port assigned to KDC can be found under Windows Device Manager. The port assignment is used by KTSync<sup>®</sup> for synchronizing data from the KDC to the host.

- Synchronize: This option manually tells the KDC to synchronize data with the host. While data is being synchronized, KTSync menu options are unavailable. **NOTE: Please do not use your computer during data synchronization.**
- Bluetooth: This option is not available on KDC100. User can register MAC address to be directly connected by KDC200/250/300/400.
- Exit: This option ends the KTSync program. You must re-run KTSync before you can synchronize data on the KDC.

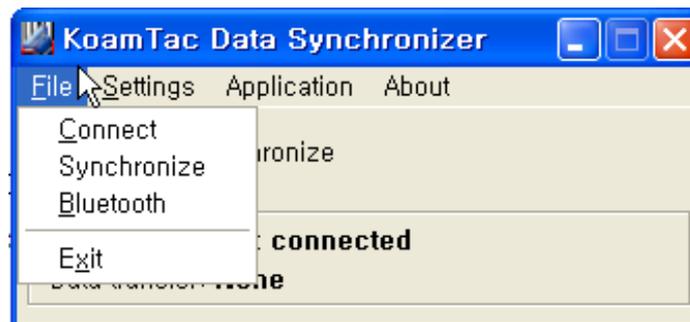


Figure 8 – File Menu

### Settings Menu

- Synchronization: Select Synchronize options.
- Barcode & KDC: Select Barcode and KDC options.
- Others: Select Auto Connection and/or Synchronization Confirmation options.

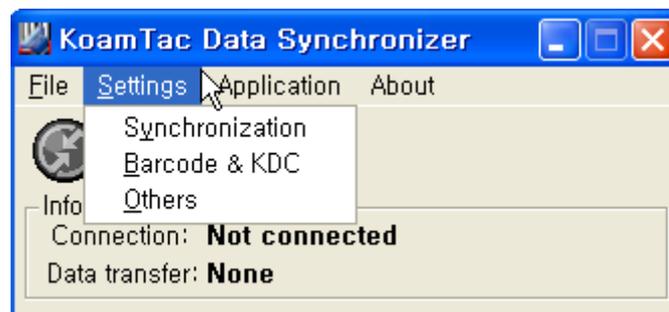


Figure 9 – Setting Menu

## Application Menu

- Generation: Create user application or download predefined application.
- DB Lookup: Allows users to download DB into KDC and display barcode description field
- Master/Slave: User defines a master barcode for comparison with one or more slave barcodes
- Pick/BIN: User defines Pick ID and the barcode symbology for comparison with a defined Bin
- Inventory: Users can count inventories. Inventory description would be displayed if inventory DB is downloaded into KDC.

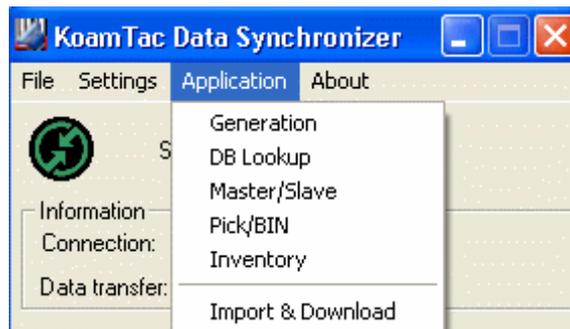


Figure 10 – Application Menu

## About Menu - KTSync® - Version Information

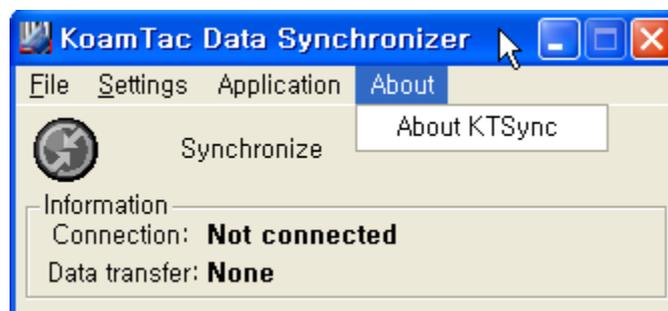


Figure 11 – About Menu

## 5.2 File Menu

---

### *Connect to KDC*

The KDC connects to a COM port automatically when connected to your PC's USB port. **You can manually assign the KDC COM port using KTSync® Connection submenu under File menu if needed.**



Figure 12 - COM Port Selection for KDC

- The COM port assignment is found in the Windows Device Manager.
- KTSync® will not connect to the KDC if it is in KDC Menu. You must EXIT from the KDC Menu.
- If KTSync® fails to connect automatically to the KDC, please follow these directions.
  1. Exit KTSync®.
  2. Check that you have connected the KDC to a USB port on your PC.
  3. Make sure to use the cable provided with the KDC.
  4. Check that the KDC is not in KDC Mode Menu.
  5. Restart KTSync®.

**NOTE: You can manually assign the COM port using KTSync® Connect option under the File menu.**

### *Synchronize*

Under the File Menu, this option allows you to manually synchronize data on KDC with host. This option is similar to clicking on the Synchronize button in the KoamTac Data Synchronizer box.

## Bluetooth

This menu option allows you to register up to ten Bluetooth devices including their MAC address, PIN #, and optional prefixes or suffixes. This option enables direct Bluetooth connection between KDC and other Bluetooth devices such as *Bluetooth* printer. User should choose *Bluetooth* device to be connected in "Connect to" menu in KDC *Bluetooth* Service menu.

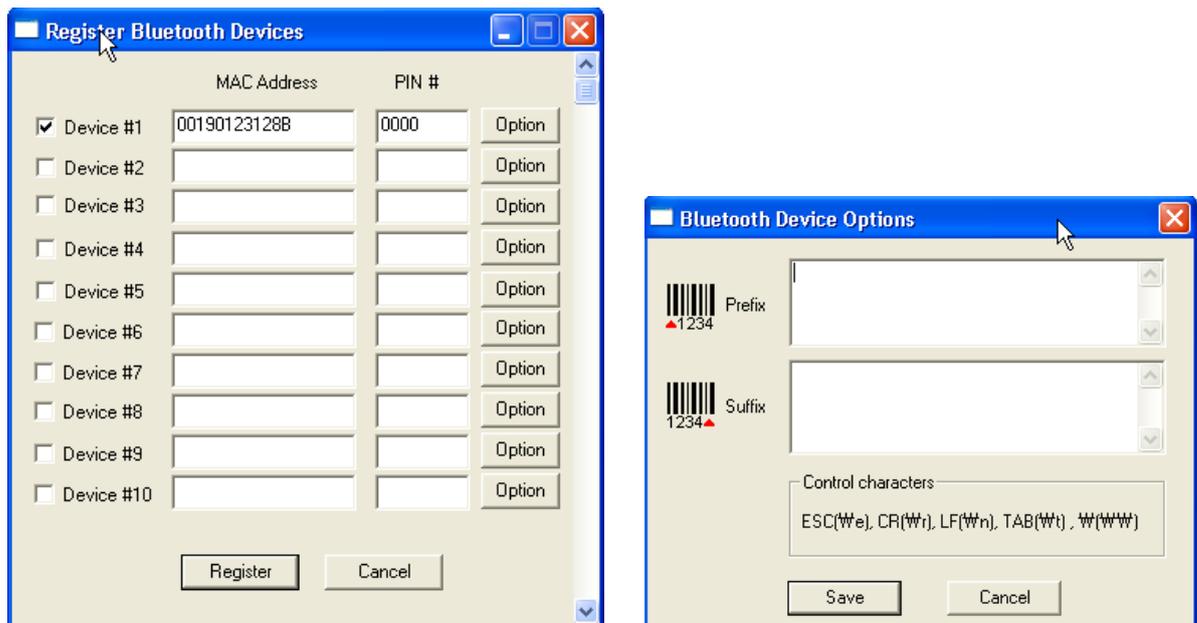


Figure 13 - Bluetooth Device Registry

## 5.3 Synchronization Settings

KTSync® provides several synchronization options for synchronizing data from your KDC to host devices such as your PC, PDA, or smartphone running Windows XP, Vista, Windows 7, or Mobile 5.0+.

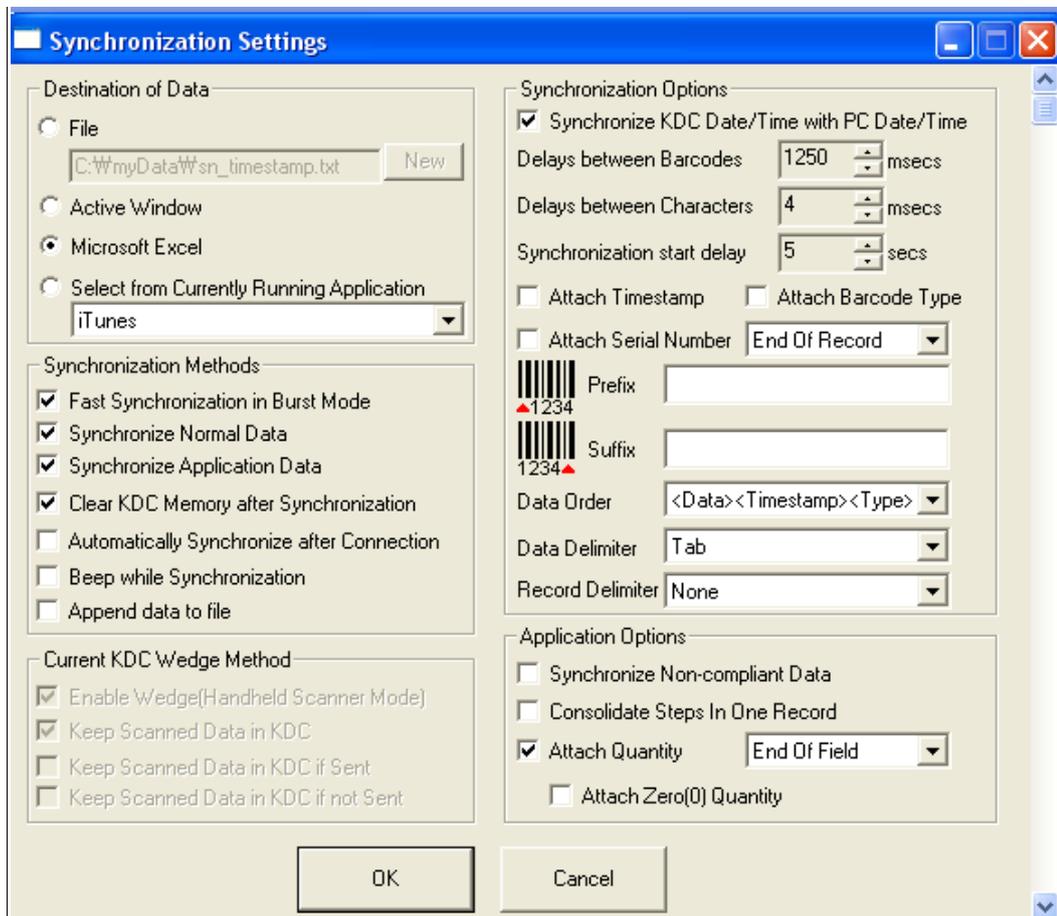


Figure 14 - KTSync® Synchronization Settings

### *Destination of Data*

When barcode data is uploaded to the host device, you must assign a destination for the data. Destination of Data options include:

- **File** - This option means data will be saved in the assigned filename. You can select a different target directory by clicking the New icon. C:\MyData\sn\_timestamp.txt is the default directory. If this directory is not created, you will be prompted to create it before data can be uploaded to a file.
- **Active Window** - This option means scanned barcode data is sent directly to the active program running on your device as if the data was being entered directly from a keyboard.
- **Microsoft Excel** - This option means barcode data is being imported directly into Microsoft's Excel. Various parameters can be set when uploading data to Excel.

- Select from Current Running Application – This option allows you to select a currently running application for data synchronization.

#### Note:

- Data synchronization begins immediately if *Automatically After Connection* is selected. If not selected, data synchronization is started manually by the user.
- Users **SHOULD NOT** operate the PC during the synchronization process. It can interrupt the process causing unreliable results.

## *Synchronization Methods*

### **Fast Synchronization in Burst Mode**

The KDC can synchronize data to a host device in Burst mode or Sequential mode. Burst mode provides the fastest synchronization process but could result in error in a poor *Bluetooth* environment. Fast synchronization in burst mode is only recommended with USB connection.

### **Synchronize Normal Data**

The KDC will synchronize Normal Data only in KDC memory if Synchronize Normal Data option is selected. If you want all data in KDC memory synchronized, you should select Synchronize Normal Data **and** Synchronize Application Data.

### **Synchronize Application Data**

The KDC will synchronize Application Data only in KDC memory if Synchronize Application Data option is selected. If you want all data in KDC memory synchronized, you should select Synchronize Normal Data **and** Synchronize Application Data.

### **Clear KDC Memory after Synchronization**

The stored barcode data is cleared from the KDC memory after synchronization if this option is selected. The KDC can store a total of 10,240 barcodes or 80KB(86 version)/180KB(85 version) of barcode data.

- It is important to clear the KDC memory periodically to prevent Buffer Full message which will prevent the KDC from storing additional data.
- Stored barcode data can also be deleted using the Reset Memory feature on the KDC.

### **Automatically Synchronize after Connection**

This option lets you automatically synchronize collected data to your computer immediately when the

KDC is connected to the host.

- **IMPORTANT:** Remember to configure all options properly before selecting this option.
- Data synchronization can be done manually by clicking the synchronize icon if this option is not selected.

### ***Beep while Synchronization***

You can enable or disable the beep tone during the synchronization process. A beep is sounded each and every time barcode data is synchronized if this option is selected. The KDC beeps 5 times when the synchronization process is complete.

### ***Append data to File***

KTSync would append data to the existing file instead of creating a new file if user has specified file name and Append data to File option is enabled.

## *Current KDC Wedge Method*

The KDC can be configured in one of five Wedge/Store modes -

- **Wedge Only** - Scanned data is transmitted to the host. The KDC does not store scanned data.
- **Wedge & Store** - Scanned data is stored in the KDC and transmitted to the host.
- **Store Only** - Scanned data is stored in the KDC but NOT transmitted to the host.
- **Save if Sent** - Scanned data is stored in the KDC ONLY if transmission to the host is successful.
- **Save if Not Sent** - Scanned data is stored in the KDC ONLY if transmission to the host is unsuccessful.

***Enable Wedge (Handheld Scanner Mode)*** - This option will be checked if Wedge Only or Wedge & Store option is selected.

***Keep Scan Data in KDC*** - This option will be checked if Store Only or Wedge & Store option is selected.

## *Synchronization Options*

### ***Synchronize KDC Time with PC Time when Connected***

This option enables you to synchronize the KDC date and time with the host date and time. Synchronization of date and time occurs after the data is uploaded to the host device.

### ***Delays***

You can set transmission delays between barcodes and characters during the synchronization process. It is important to set proper delays to prevent errors during the transmission of collected barcodes. Some Windows applications such as Excel require longer delay times.

### ***Attachments***

Timestamp, Barcode Type, and Serial Number can be attached to the scanned barcode by selecting these options. The Serial Number of the KDC can be attached to the Start or End of Record.

### ***Prefix and Suffix***

- Enter the characters you want appended to the front (Prefix) or back (Suffix) of the barcode in the Prefix and Suffix fields.
- The character set is any combination of ASCII characters including alphanumeric, line feed (“\n”), and carriage return (“\r”).

### ***Order and Delimiter***

- Select Order of Data – Type, Data, and Timestamp
- Select the Delimiter between Data – Tab, Space, Comma, and Semicolon
- Select the Delimiter between Records – None, LF, CR, Tab, and <LF & CR>

## *Application Options*

### ***Synchronize Non-Compliant Data***

The KDC will synchronize both compliant and non-compliant data (filtered data) if Synchronize Non-Compliant Data option is Enabled.

### ***Consolidate Steps in One Record***

KTSync will consolidate the data collected in Step 1 with the data collected in Step 2 and/or Step 3. Data will be consolidated into one record instead of individual data records for each step when Consolidate Steps in One Record is Enabled. Non-complete records, i.e. three steps were defined but data was only collected for two steps; would be discarded if this option is Enabled.

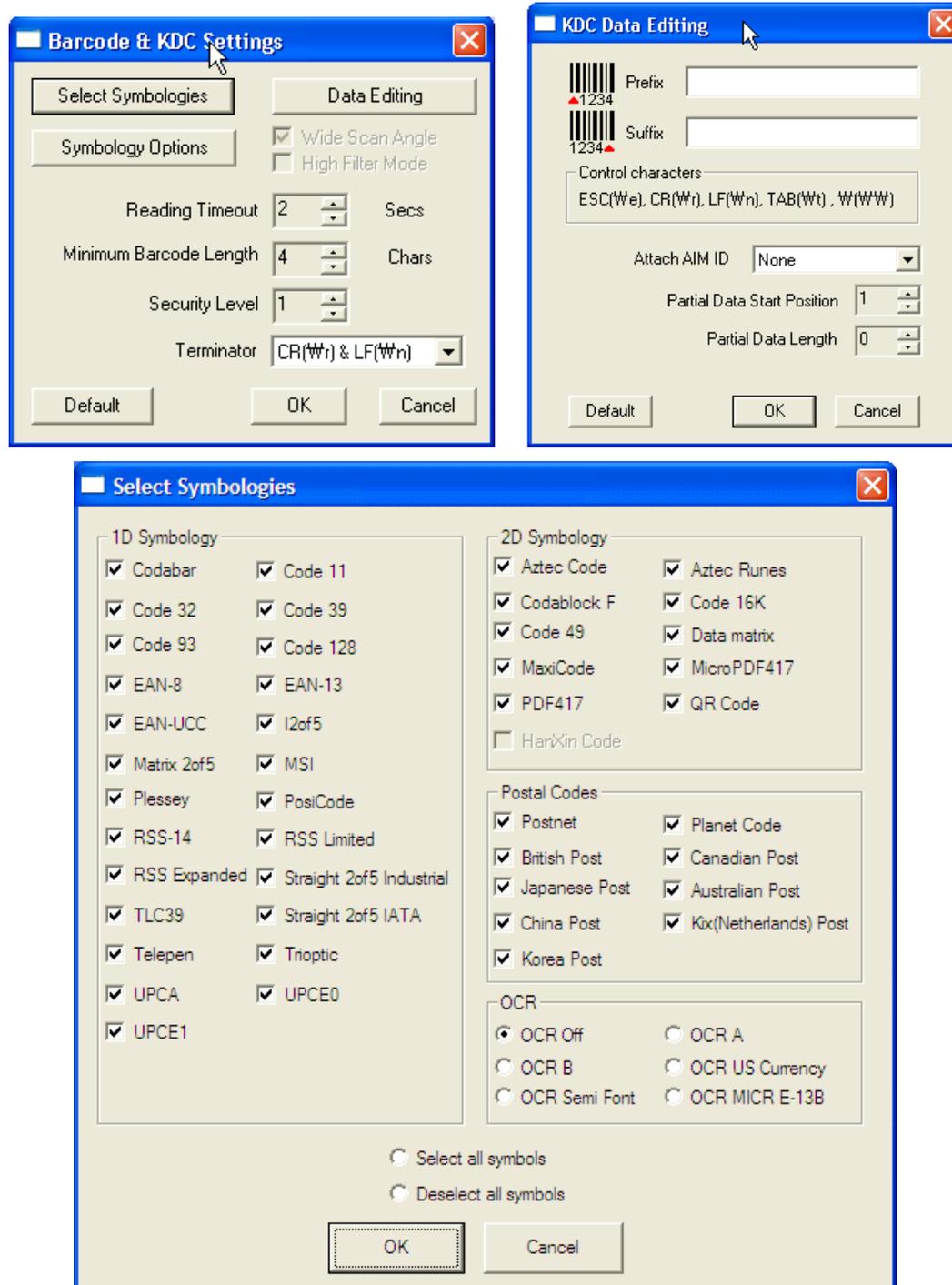
### ***Attach Quantity***

Quantity would be attached to the left or right of the data if this option is Enabled.

## 5.4 Barcode & KDC Settings

KTSync® allows you to configure the KDC Scan Options and Barcode Settings. The configuration options for the KDC using KTSync® are similar to the Set Barcodes, Code Options, Data Editing and Scan Options on the KDC Menu. Please refer to Appendix A for proper barcode settings for your application.

**NOTE: You must configure barcode and scan options properly for optimal KDC performance.**



**Symbology Options**

**Codabar**

Concatenation On  
 Concatenation Off  
 Concatenation require

Do not verify check character  
 Verify check digit and transmit  
 Verify check digit but do not transmit  
 Transmit start/stop character

**Code 39**

Append  
 Full ASCII  
 Transmit start/stop character

Do not verify check character  
 Verify check digit and transmit  
 Verify check digit but do not transmit

**UPCA**

Verify check digit  
 Number system  
 2 digit addenda  
 Addenda separator

5 digit addenda  
 Addenda required  
 Extended coupon code

**UPCE**

Check digit  
 Number system  
 2 digit addenda  
 Expand

Addenda required  
 5 digit addenda  
 Addenda separator

**EAN-8**

Verify check digit  
 2 digit addenda  
 5 digit addenda

Addenda required  
 Addenda separator

**EAN-13**

Verify check digit  
 2 digit addenda  
 5 digit addenda

Addenda required  
 Addenda separator  
 ISBN Translate

**Interleave 2 of 5**

Do not verify check digit  
 Verify check digit and transmit  
 Verify check digit but do not transmit

**Code 11**

Verify check digit(s)

**Code 128**

ISBT Concatenation

**Telepen**

AM Output  
 Original Output

**EAN/UCC**

UPC/EAN Version  
 RSS Emulation  
 128 Emulation  
 Emulation off

**MSI**

Verify check digit and transmit

**PosiCode**

A and B On  
 A and B and Limited A On  
 A and B and Limited B On

**Postnet**

Check digit and transmit

**PlanetCode**

Check digit and transmit

OK Cancel

Figure 15 - Barcode & KDC Settings, Symbologies, Data Editing and Scan Options

## Select Symbologies and Symbology Options

The process for scanning and reading barcodes is delicate and complicated. Although your KDC is equipped with a high performance scan engine, if configured incorrectly it may not perform at its peak performance level. To ensure its high performance, the KDC comes configured to optimize its scan engine technology. Unless you clearly understand the impact of your changes to the KDC settings, please do not change factory default settings. Please refer to Appendix A for details. Pressing the Default icon will reset all symbology related options to factory default settings.

### Data Editing Option

**Prefix** - Allows you to add a prefix to scanned data which can then be stored in KDC or wedged to the host. The Prefix format must be defined in the data format menu of KTSync. The maximum length for a Prefix is 11 characters. **NOTE:** This Prefix option is different from the Prefix option in KTSync which appends the prefix to data during synchronization.

**Suffix** - Allows you to add a suffix to scanned data which can then be stored in KDC or wedged to the host. The Suffix must be defined in the data format menu of KTSync. The maximum length for a Suffix is 11 characters. **NOTE:** This Suffix option is different from the Suffix option in KTSync which appends the suffix to data during synchronization.

**AIM ID** - Allows you to add AIM ID to scanned data which can then be stored in KDC or wedged to the host. AIM ID must be defined in data format menu of KTSync. AIM ID is either added to the end of Prefix or Suffix.

**Partial Data**: Allows you to display and store partial data. User defines the start position and number of characters to be displayed and stored.

- Select the **x** characters from **y** position
  - ✓ Set Partial Data Start Position to **y**, Partial Data Length to **x**, Partial Data Action to Select
  - ✓ Partial Data Length **0** means Select all characters from **y** position.
- Erase the **x** characters from **y** position
  - ✓ Set Partial Data Start Position to **y**, Partial Data Length to **x**, Partial Data Action to Erase
  - ✓ Partial Data Length **0** means Erase all characters from **y** position.

## 5.5 Others Settings

---

Other options under the Settings menu allows you to select four additional settings.

- **Ask Confirmation before Trying Auto Connection** prevents unintentional launch of KTSync.
- **Ask Confirmation before Starting Auto Synchronization** prevents unintentional synchronization of data.
- **Minimize KTSync on Start** will minimize KTSync and send to the tray upon execution.
- **Keep Checking Bluetooth Connection** allows reconnection of KDC once *Bluetooth* signal is detected. This feature is useful when moving from *Bluetooth* host device frequently. KTSync will automatically reconnect *Bluetooth* connection when you enter an effective *Bluetooth* network range. *(Not Available on KDC100)*

To select any of these settings, click on the box to the left of the setting. A check mark (✓) will display next to the setting to indicate that it is selected.

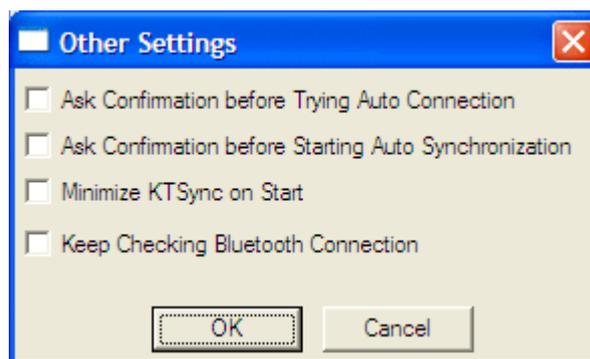
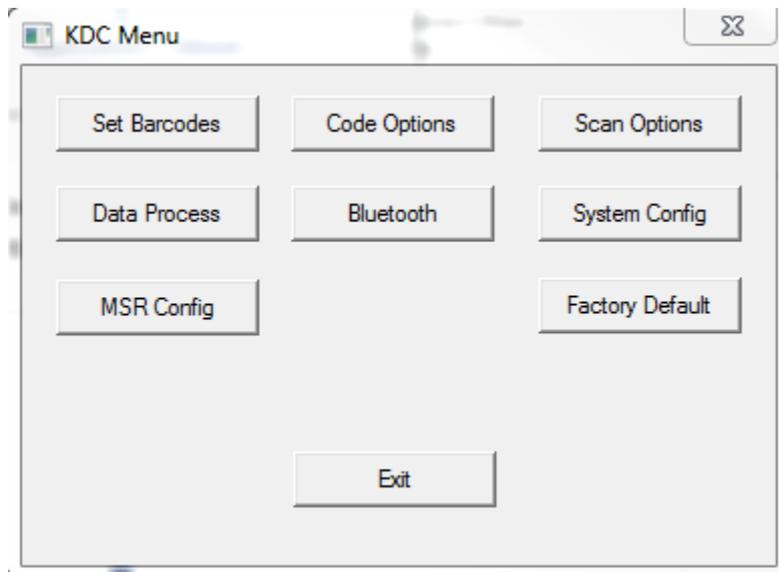


Figure 16 - KTSync® Confirmation Settings

## 5.6 KDC Menu (KDC400)

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KDC Menu allows users to configure KDC400 settings.



## 5.7 Mobile pKTSync

pKTSync provides limited functionality for Pocket PC 2003 and Mobile 5.0+ users.

1. Synchronization - Provides data upload functionality to your applications.
2. Keyboard Emulator - Allows scanned data to be uploaded directly into your application as if the data were being entered manually on a keyboard.

For detailed explanations of these functions, please refer to earlier sections of this chapter.

**WARNING: The user must assign the correct COM port to KDC prior to use pKTSync. Please refer to your mobile device manual for details on *Bluetooth* pairing and COM port assignment methods.**

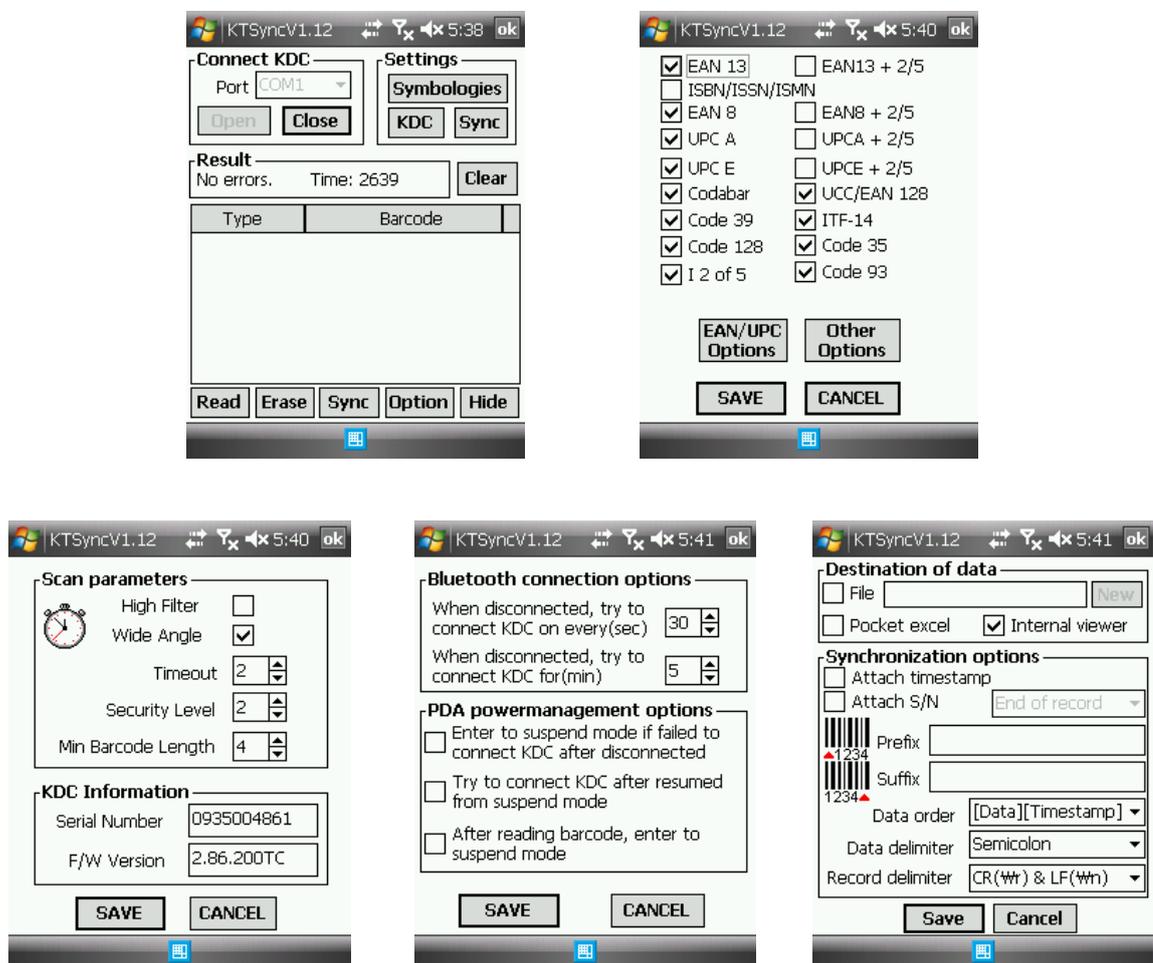


Figure 17 – Mobile pKTSync

## 5.8 Android aKTSync

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The aKTSync provides limited functionality of PC KTSync to Android users.

**[NOTE 1] aKTSync only supports Android devices with 2.1+ OS version and that are compatible with BluetoothChat application.**

**[NOTE 2] KDC with *Bluetooth* Spec2.1+EDR doesn't prompt Pin code entry menu**

### *KDC and Android Pairing*

#### 1. Pairing

- Select "SPP" Bluetooth profile from KDC ConnectDevice submenu in BT Config menu.
- Search KDC from Android and pairing two devices.
- KDC PIN code is "0000"

#### 2. Connection

- Click "Connect" icon in aKTSync
- Android would list up paired *Bluetooth* devices and user should select the target KDC.

3. Synchronization - Provides data upload functionality to your applications.

4. Settings – User can change various Synchronization options in settings menu.

5. Wedging – User can wedge barcode data to any Android application. Press home key and launch the target application.

### *Launch aKTSync*

1. Download and install aKTSync from the Android Market.  
[http://www.androidzoom.com/android\\_applications/productivity/ktsync\\_luxv.html](http://www.androidzoom.com/android_applications/productivity/ktsync_luxv.html)
2. Change KDC Bluetooth "ConnectDevice" option to "SPP"
3. Execute Android *Bluetooth* device scan option and KDC *Bluetooth* pairing option
  - A. Execute KDC *Bluetooth* "Pairing" option
  - B. Launch "Settings" on the Android device
  - C. Select "Wireless and Networks"
  - D. Click on "Bluetooth Settings"
  - E. Click on "Scan devices"
  - F. The Android device will display the KDC model and 6 digits of the serial number.
4. Press the KDC list entry, enter "0000" PIN code and press "OK"
5. When paired, the Android device will display "Paired but not connected".
6. Launch aKTSync program

- A. Press menu key and select the “Connect” option on the top left
- B. From the list of paired devices, choose the KDC to use
- C. On the top menu bar of aKTSync, you will see “connecting” then “connected”.
- D. On the KDC display, you will see “Pairing Succeeded!!!” then “Bluetooth Connected”
- E. Select “Settings” option on the bottom left to change aKTSync settings

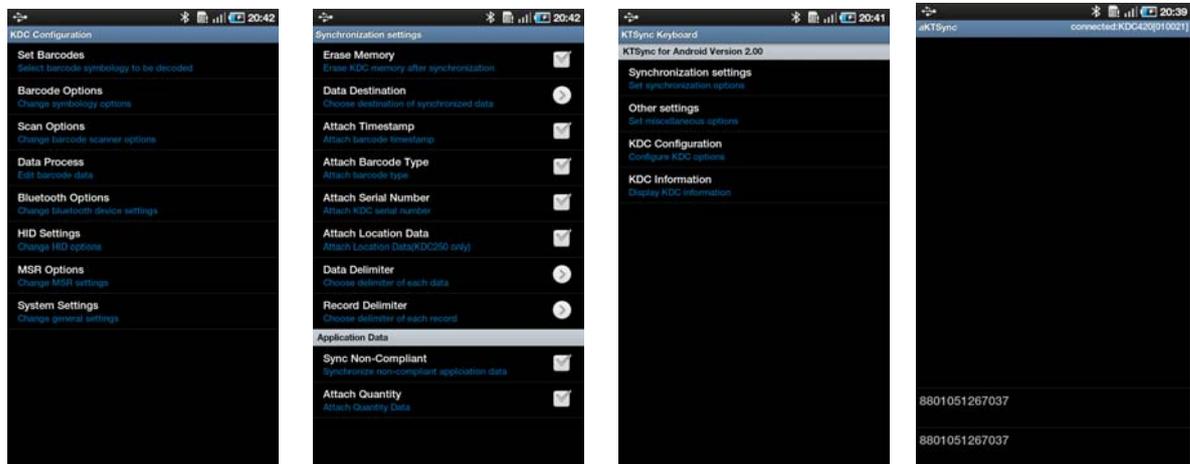


Figure 18 – Android aKTSync

## Keyboard Wedge

1. Launch “Settings” on the Android device
2. Select “Language and Keyboard (or Input method)”
3. Select “KTSync Keyboard”
4. Launch the application and touch the input box to give focus to it
5. Barcode would be wedged to the input box upon scanning a barcode

## Settings

Users can set Synchronization and auto connect settings in Settings menu.

## 5.9 iPad/iPhone/iPod touch iKTSync

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The iKTSync for iPad/iPhone/iPod touch provides limited functionality of PC KTSync for iPad, iPhone and iPod touch users.

[Note] Users should reset iPhone/iPad/iPod touch to change the *Bluetooth* profile between "HID" and "iPhone".

### *KDC200i/250i/300i/400i and iPhone/iPad/iPod touch connection instructions*

1. The KDC200i/250i/300i/400i support "SPP", "HID" and "iPhone" Bluetooth profiles.
2. The iPhone/iPad/iPod touch should use either "HID" or "iPhone" Bluetooth profiles.
3. KDC Bluetooth profile should be set to "iPhone" to use iKTSync.
4. Download the KTSync program from the App Store.
  - A. <http://itunes.apple.com/us/app/ktsync/id372916602?mt=8>
5. Enable the iPhone/iPad/iPod touch Bluetooth power from the iOS Setting > General > Bluetooth menu
6. Pair and connect KDC.

### *iPhone/iPad/iPod touch Pairing and Connection using KDC200i/250i/300i/400i Discovering option*

1. Download and install iKTSync from the Apple App Store.
  - A. <http://itunes.apple.com/us/app/ktsync/id372916602?mt=8>
2. Press the two KDC side buttons together to enter menu mode
3. Scroll down to "BT Service - Discovering" menu
4. Press the front middle scan button
  - A. "Discovering Started ..." message will be displayed on KDC screen
  - B. Discovering will take about 30 seconds.
5. Select discovered iPhone/iPod touch device name and press the front middle scan button
  - A. [Pin Code] User Default/Enter PinCode will be displayed
  - B. Press the front middle scan button to select the "Use Default" option
  - C. "Connecting to iPhone/iPod touch device name" will be displayed
  - D. iPhone/iPad/iPod touch will ask for the PIN number.
  - E. Please enter "0000" and hit "connect" icon
  - F. "iPhone Connected" message will be displayed
6. Launch KTSync and configure Settings

## *iKTSync Settings*

iKTSync provides following Settings menu.

- Synchronization - User can configure Synchronization options such as destination of data, data formation and delimiters.
- Other settings - Users can configure KDC250 GPS module, disconnection options and soft trigger button.



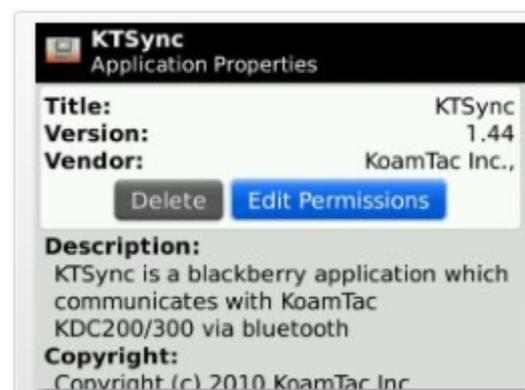
*i KTSync*

## 5.9 Blackberry bKTSync

The bKTSync provides limited functionality of PC KTSync for Blackberry users.

**[NOTE] KDC with Bluetooth Spec2.1+EDR doesn't prompt Pin code entry menu**

1. Download and install bKTSync from the Blackberry App World.  
<http://appworld.blackberry.com/webstore/search/ktsync?lang=en>
2. Go to Blackberry Options > Applications menu and Enable "Input Simulation" option
3. Change KDC Bluetooth profile in "ConnectDevice" option to "SPP"
4. Execute Blackberry *Bluetooth* manager and KDC *Bluetooth* pairing option
  - A. Execute KDC *Bluetooth* "Pairing" option
  - B. Launch the Blackberry *Bluetooth* manager and select "Search". The KDC model and 6 digits of the serial number would be displayed.
  - C. Highlight the KDC and press the Enter or Select Key
  - D. Enter "0000" PIN code and press the Enter or Select Key if BT ConnectDevice is selected as SPP2.0. Blackberry wouldn't prompt to enter PIN code if BT ConnectDevice is selected as SPP.
  - E. The Blackberry will display "Pairing with KDC"...complete."
  - F. Close the Blackberry Bluetooth manager
5. Go to Downloads folder and execute KTSync
6. Select KDC to connect, press menu button and execute connect option.
7. User can configure KDC options in KDC settings and Symbologies Settings menu
8. Go to KTSync Synchronization Settings and select Destination. To send collected barcode as an email attachment, choose "Email Attachment" as destination, enter email address, subject and body message. You can enter multiple email addresses using the semicolon(;) separator.
9. To scan barcodes into any application (like email, notes, worksheet or web browser), press the menu key and select "Running in the background" option. bKTSync will maintain the connection and place the scanned barcode data where ever the cursor is flashing.



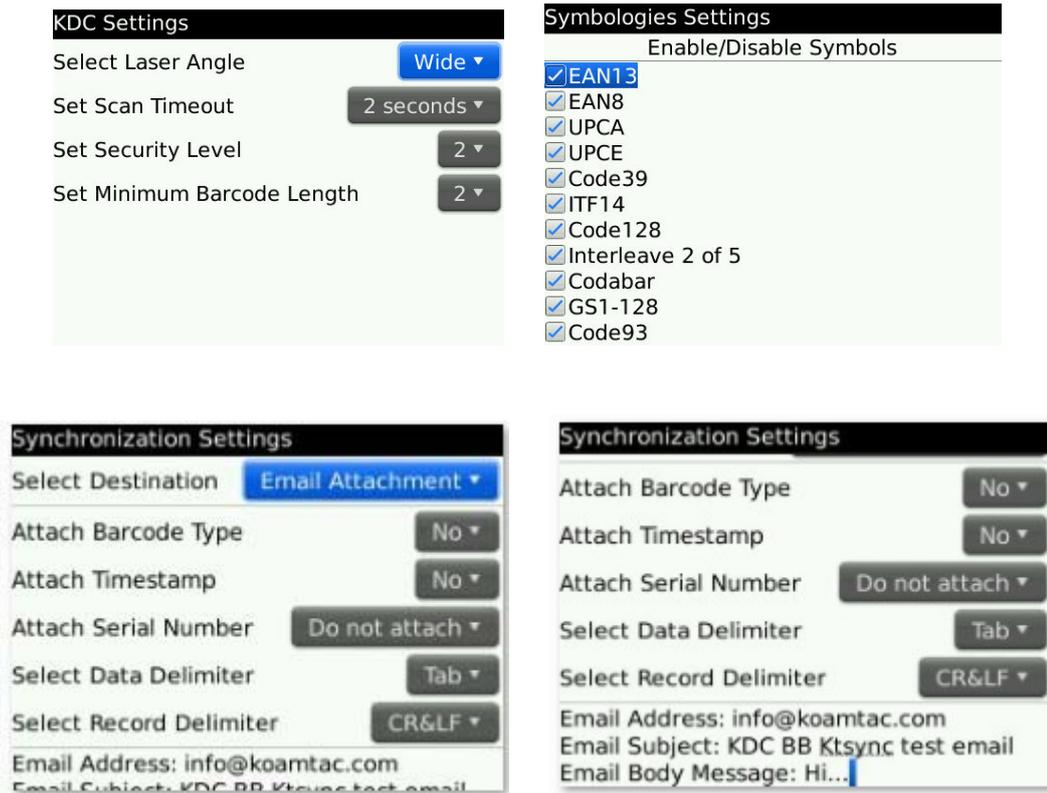


Figure 20 – Blackberry KTSync

## 5.10 KTSync for Mac OS X

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The KTSync Mac OS X version provides limited functionality of PC Windows KTSync for Mac OS X users.

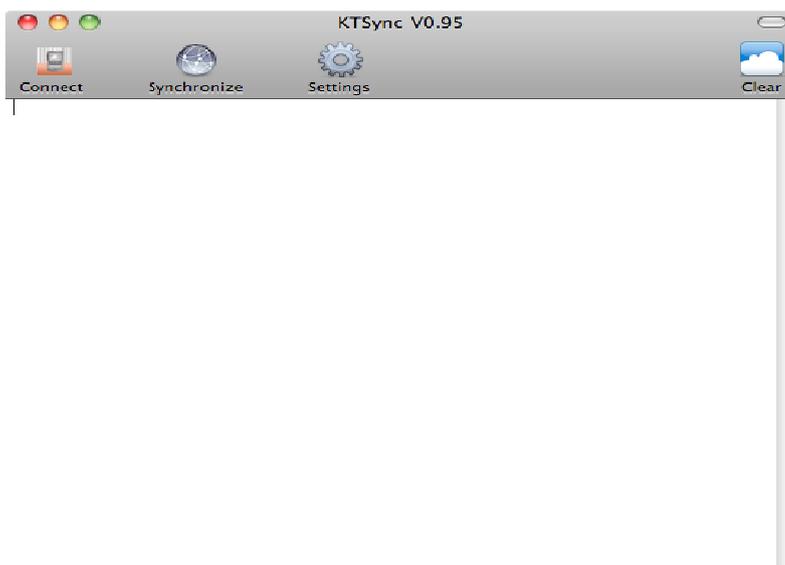
**[NOTE 1] KTSync for Mac OS X version only supports Bluetooth SPP profile. User should pair KDC with Mac before launching KTSync program.**

**[NOTE 2] Mac OS X version KTSync is built as a X86 binary application and works with the Intel based Mac. It is verified on Mac PC running Mac OS X 10.6.5 only.**

KTSync Mac OS X version supports following features.

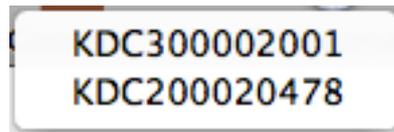
- Keyboard wedge function to the active window or any registered user application
- Synchronize to a file, active window and user defined application.
- It allows adding serial number, timestamp and various data and record delimiters.

User will see the following initial KTSync screen once launching the program.



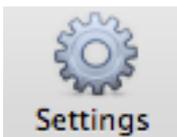
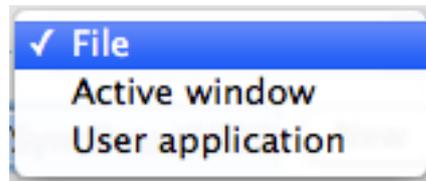
Connect Button

User can connect the Mac with paired KDC by clicking the Connect button. The following screen will be displayed when this button is pressed and KTSync will start to connect to the selected KDC.



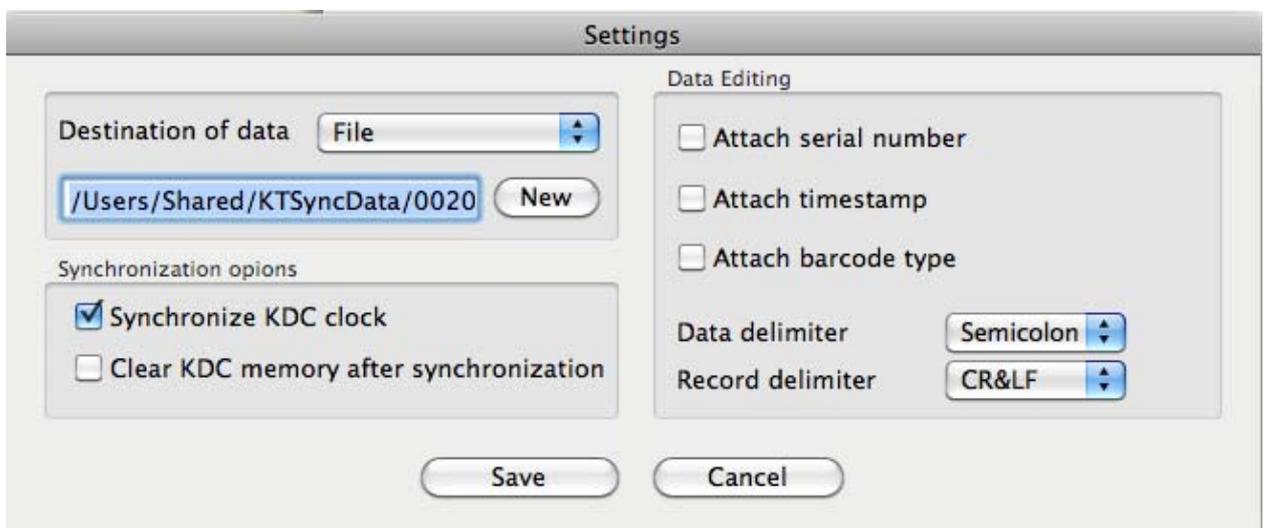
**Synchronize** Synchronize Button

User can start the synchronization process by pressing the Synchronize button. User can select the destination of barcode data in the settings menu. There are 3 selectable destinations.



**Settings** Settings Button

User can configure synchronization options by pressing the Settings button.



- Destination of data
  - The KTSync program wedges or downloads barcode data to the one of following three destinations.
    - ✓ File: The KTSync makes file name based on current date and time and stores into a default directory /Users/Shared/KTSyncData directory. User can define other

directory by clicking “New” button. The maximum file path length is 128 characters.

- ✓ Active window

The KTSync sends barcode data to current active window if Active window option is selected.

- ✓ User application: User can define the target application by pressing “New” button. The maximum application name path length is 128 characters.

- Synchronize KDC clock

KTSync will set KDC’s date and time with Mac PC date and time when KDC is connected to Mac if this option is enabled.

- Clear KDC memory after synchronization

KTSync clears barcode data stored in KDC memory once synchronization has finished if this option is enabled.

- Attach serial number

The KTSync would add a KDC serial number to barcode data if this option is enabled.

- Attach time stamp

The KTSync would add timestamp to barcode data if this option is enabled.

- Attached barcode type

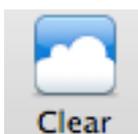
The KTSync would add barcode type to barcode data if this option is enabled.

- Data delimiter

This option is used to select a character to be added between barcode data, serial number, timestamp and/or barcode type. User can select one of “None”, “Tab”, “Space”, ‘Comma” and “Semicolon” as data delimiter.

- Record delimiter

This option is used to select a character to be added at the end of barcode record. User can select one of “None”, “CR”, “LF”, TAB”, and “CR&LF” as record delimiter.



Clear Button

User may press this button to clear KTSync internal viewer.

## 6. TROUBLESHOOTING

| PROBLEM  | CAUSE                               | SOLUTION   |
|--|-------------------------------------|--|
| <b>KDC not working</b>                               | Dead battery                        | <ul style="list-style-type: none"> <li>● Charge battery by connecting KDC to your PC using the included cable</li> </ul>   |
|  | Hardware failure                    | <ul style="list-style-type: none"> <li>● Contact distributor for technical support</li> </ul>  |
| <b>KDC not charging</b>                              | Bad battery                         | <ul style="list-style-type: none"> <li>● Replace battery – Contact Local Distributor</li> </ul>  |
|  | Poor USB port                       | <ul style="list-style-type: none"> <li>● USB port doesn't supply proper current to KDC - Charge KDC using a different USB port on your PC</li> </ul>   |
| <b>Failed reading</b>                                | Damaged barcode                     | <ul style="list-style-type: none"> <li>● Scan a different barcode</li> </ul>   |
|  | Out of scan range                   | <ul style="list-style-type: none"> <li>● Move the scanner closer to barcode</li> <li>● Move scanner farther from the barcode</li> </ul>  |
|  | Incorrect angle                     | <ul style="list-style-type: none"> <li>● Change the angle of scanner to barcode</li> </ul>   |
|  | Symbology not supported             | <ul style="list-style-type: none"> <li>● Contact KoamTac - <a href="http://www.koamtac.com">www.koamtac.com</a> for possibility of custom symbology support</li> </ul>   |
|  | Scan options                        | <ul style="list-style-type: none"> <li>● Check scan option settings</li> </ul>   |
|  | Dirty scan window                   | <ul style="list-style-type: none"> <li>● Clean scan window</li> </ul>  |
|  | Damaged scan window                 | <ul style="list-style-type: none"> <li>● Replace scan window</li> </ul>  |
| <b>KDC reads wrong barcode</b>                       | Dirty scan window                   | <ul style="list-style-type: none"> <li>● Clean scan window</li> </ul>  |
|  | Damaged scan window                 | <ul style="list-style-type: none"> <li>● Replace scan window</li> </ul>  |
|  | Poor quality barcode                | <ul style="list-style-type: none"> <li>● Select only necessary barcodes</li> <li>● Increase minimum barcode length</li> <li>● Increase security level</li> </ul>   |
| <b>Can't communicate with PC, PDA, or smartphone</b> | USB cable is not connected properly | <ul style="list-style-type: none"> <li>● Check cable connection between KDC and host device</li> </ul>   |
|  | Software is not working properly    | <ul style="list-style-type: none"> <li>● Reload the software</li> </ul>  |
|  | COM configuration                   | <ul style="list-style-type: none"> <li>● Check COM port configurations</li> </ul>  |
| <b>LED blinks yellow</b>                             | Low battery power                   | <ul style="list-style-type: none"> <li>● Charge the battery by connecting KDC to PC.</li> <li>● KDC will lose collected data if the battery is empty.</li> </ul>   |
| <b>Buffer Full Message</b>                           | Full Memory                         | <ul style="list-style-type: none"> <li>● Clear the Memory using Synchronization program</li> </ul>   |
| <b>Empty Battery Message</b>                         | Empty battery                       | <ul style="list-style-type: none"> <li>● Connect USB immediately.</li> <li>● Synchronize the collected data and charge KDC</li> </ul>  |
| <b>Abnormal KTSync Operation on DELL PC</b>          | Quickset Utility                    | <ul style="list-style-type: none"> <li>● Disable Quickset Utility before using KTSync.</li> <li>● Dell Quickset utility interrupts normal KTSync operation</li> </ul>  |
|  | WSED Utility                        | <ul style="list-style-type: none"> <li>● Disable WSED Wireless enable/disable utility</li> <li>● delete the folder C:\Program Files\WSED, which contains a file WSED.exe, with the same icon as in the taskbar</li> <li>● Delete the registry entry KEY_LOCAL_MACHINE \SOFTWARE\Microsoft\Windows\CurrentVersion\Run\WSED</li> </ul> |

Table 6 - Troubleshooting Techniques

# 7. WARRANTY

## LIMITED WARRANTY AND DISCLAIMERS

BY OPENING THE PACKAGE OF THIS PRODUCT YOU AGREE TO BECOME BOUND BY THE LIABILITY AND WARRANTY CONDITIONS AS DESCRIBED BELOW.

UNDER ALL CIRCUMSTANCES THIS MANUAL SHOULD BE READ ATTENTIVELY, BEFORE INSTALLING AND OR USING THE PRODUCT.

### Serial Number

A serial number appears on the KDC label. This official registration number is strictly related to the device purchased. Make sure that the serial number appearing on your KDC is not removed. Removing the serial number will affect the warranty conditions and liability disadvantageously, so please maintain the label with serial number on the KDC. Units with the serial number label removed should not be operated.

### Warranty/Warranty Period/Liability

KoamTac, Inc. ("KoamTac") manufactures its hardware products in accordance with industry-standard practices. Unless otherwise agreed in a contract, KDC is warranted for a period of one year after purchase, covering defects in material and workmanship except rechargeable battery. KoamTac will repair or, at its opinion, replace products that prove to be defective in material or workmanship under proper use during the warranty period. KoamTac will not be liable in cases (i) in which the unit has been repaired or altered unless done or approved by KoamTac, (ii) in which the unit has not been maintained in accordance with any operating or handling instructions supplied by KoamTac, (iii) in which the unit has been subjected to unusual physical or electrical stress, misuse, abuse, power shortage, negligence or accident or (iv) in which the unit has been used other than in accordance with the product operating and handling instructions. Preventive maintenance is the responsibility of the customer and is not covered under this warranty. Under no circumstance will KoamTac be liable for any direct, indirect, consequential or incidental damages arising out of use or inability to use either the hardware or software, even if KoamTac has been informed about the possibility of such damages.

### Warranty Coverage and Procedure

During the warranty period, KoamTac will repair or replace defective products returned to KoamTac warehouse. International customers should contact the local KoamTac office or support center. If warranty service is required, KoamTac will issue a Return Material Authorization Number. Products must be shipped in the original or comparable package, shipping and insurance charges prepaid. KoamTac will ship the repaired or replacement product freight and insurance prepaid. Customer accepts full responsibility for its software and data including the appropriate backup thereof. Repair or replacement of a product during warranty will not extend the original warranty term.

**CAUTION:** Changes or modifications not expressly approved by the manufacturer responsible for compliance could void the user's authority to operate the equipment.

## 8. CONTACT INFORMATION



**CORPORATE HEADQUARTERS**

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**For more information, visit our website - [www.koamtac.com](http://www.koamtac.com)**

## APPENDIX A - BARCODE & SCAN OPTIONS

The process for scanning and reading barcodes is delicate and complicated. Although your KDC is equipped with a high performance scan engine, if configured incorrectly it may not perform at its peak performance level. To ensure its high performance, the KDC comes configured to optimize its scan engine technology. Unless you clearly understand the impact of your changes to the KDC settings, please do not change factory default settings.

### A.1 Symbologies

KoamTac's KDC products support most major barcode symbologies including 1D, 2D, Postal, and OCR-Fonts. Below is a list of the barcode symbologies supported by the KDC with respect to each models particular area of support. To ensure superior scan performance, remember to select only the required symbologies.

|                        | <i>KDC100/200/250/300/410/415</i>  | <i>KDC300/420/425</i>  |
|------------------------|--|--|
| <i>1D Barcodes</i>     | EAN13, EAN8, UPCA, UPCE, Bookland EAN, EAN13 with Addon, EAN8 with Add-on, UPCA with Add-on, UPCE with Add-on, Interleave 2 of 5, ITF14, Code128, Codabar, GS1-128, Code39, Code93, & Code35 | Codabar, Code11, Code32, Code39, Code128, EAN8, EAN13, GS1-128, I2of5, MSI, Plessey, PosiCode, GS1 DATABAR OMNI, GS1 Limited, GS1 Expanded, S2of5IA, S2of5ID, TLC39, Telepen, Trioptic, UPCA, & UPCE |
| <i>2D Barcodes</i>     | N/A  | AztecCode, AztecRunes, CodablockF, Code 16K, Code49, DataMatrix, MaxiCode, MicroPDF, PDF417, & QRCode and HanXin Code  |
| <i>Postal Barcodes</i> | N/A  | AusPost, CanadaPost, ChinaPost, JapanPost, KoreaPost, KixPost, Planet Code, Postnet (US), & UKPost   |
| <i>OCR Fonts</i>       | N/A  | OCR-A, OCR-B, OCRUSCurrency, OCRMICRE13B, & OCRSEMIFONT  |

Table 7 - Symbologies Supported by KDC

#### Bookland EAN vs. EAN-13

Bookland EAN which includes ISBN, ISSN, and ISMN, is supported by the KDC. This group of symbologies is essentially an EAN-13 barcode with fixed prefixes; 977 for ISSN, 978 for ISBN, and 979 for ISMN. If EAN-13 and Bookland EAN are both enabled, Bookland EAN takes precedence. Bookland EAN does not have any options. The Bookland EAN barcode does not contain any groupings – that is, there are no hyphens or

separators. Thus, the ISBN 957-630-239-0 is transmitted as 9576302390.

## Add-on Symbologies

By default, the 2 or 5 digit add-on symbols with a UPCE, UPCA, EAN-8, and EAN-13 barcode is neither decoded nor transmitted. Transmission for these specific symbologies is enabled by setting the appropriate *withAddon* options. There are 4 *withAddon* options, one for each symbology:

- **UPCEwithAddon**
- **UPCAwithAddon**
- **EAN8withAddon**
- **EAN13withAddon**

The decoding of add-on symbols is typified by the following table, which explains the process for EAN-13 symbols.

| Mode                | Behavior   | Value of flags |                |
|---------------------|--|----------------|----------------|
|                     |  | EAN13          | EAN13withAddon |
| Auto-discrimination | If add-on symbol is present, then it is also decoded; otherwise only the EAN-13 symbol is decoded. | true           | true           |
| With add-on         | Only EAN-13 barcodes with 2 or 5 add-on symbol are decoded.  | false          | true           |
| Without add-on      | The add-on symbol is ignored.  | true           | false          |

*Table 8 - Add-on for EAN-13 Symbology*

The add-on symbol is appended to the EAN-13 barcode. The process is similar for UPCE, UPCA, and EAN-8 barcodes. Note that all the UPCE, UPCA, EAN-8, and EAN-13 formatting and conversion options are in effect. The following table should help explain the effect of various options for EAN-8 barcode 12345670 + 12.

| Barcode         | EAN8_as_EAN13 | EAN8_ReturnCheckDigit | EAN13_ReturnCheckDigit |
|-----------------|---------------|-----------------------|------------------------|
| 1234567012      | False         | True                  | N/A                    |
| 123456712       |               | False                 |                        |
| 00000123456712  | True          | N/A                   | false                  |
| 000001234567012 |               |                       | true                   |

*Table 9 - Add-on for EAN-8 Symbology*

The add-on symbol neither contains check digit nor a terminating guard band. Every effort has been made to reduce the decoding error; however, it is likely to decode a partial scan of a 5-digit add-on symbol as a 2-digit add-on symbol. It is strongly recommended that the minimum security level is set at 2 while decoding add-on symbols. Since the decoder takes a conservative view on the add-on symbols, it is likely that the add-on symbol will be missed in the auto-discrimination mode. Auto-discrimination mode should then be avoided.

## A.2 Code Options (KDC100/200/250/410/415)

The KDC supports the following barcode options:

- Transmission of start and stop characters
- Reverse direction
- Symbology conversion
- Verification of optional check character
- Transmission of check digit
  - Transmission of Start and Stop Characters

For Codabar symbols you can choose not to transmit the start and stop symbols, the NOTIS Editing. By default, they are transmitted. Setting the field **CodaBar\_NoStartStopChars** to true disables the transmission.

### *Reverse Direction*

This option may be selected if direction oriented symbologies are selected such as Code35.

### *Symbology Conversion*

By default the EAN-8, UPCE, and UPCA symbols are transmitted in their native format. It is possible to show them in a different format. You can choose to display UPCE symbols as either UPC-A or EAN-13 symbols, EAN-8 symbols as EAN-13 symbols, or UPC-A symbols as EAN-13 symbols. The following table shows the effect of setting various options.

| Option        | EAN-8               | UPC-A               | UPC-E               | All others |
|---------------|---------------------|---------------------|---------------------|------------|
| EAN8_as_EAN13 | Converted to EAN-13 | No effect           | No effect           | No effect  |
| UPCA_as_EAN13 | No effect           | Converted to EAN-13 | No effect           |            |
| UPCE_as_EAN13 | No effect           | No effect           | Converted to EAN-13 |            |
| UPCE_as_UPCA  | No effect           | No effect           | Converted to UPC-A  |            |

Table 10 - Symbology Conversion

## Verification of Optional "Check Digit"

Code39 and Interleave 2 of 5 have an optional check digit, which, by default, is not verified. Their verification can be enabled by selecting the option **VerifyCheckDigit** to true or you can enable the verification for individual symbologies. If the check digit verification fails then the barcode is not transmitted.

| Option Selected         | Verify Code39 check digit | Verify I2of5 check digit |
|-------------------------|---------------------------|--------------------------|
| VerifyCheckDigit        | Yes                       | Yes                      |
| Code39_VerifyCheckDigit | Yes                       | No effect                |
| I2of5_VerifyCheckDigit  | No effect                 | Yes                      |

Table 11 - Verification of Optional "Check Digit"

## Transmission of "Check Digit"

By default, the check digit – optional or mandatory – is not transmitted. Its transmission can be enabled for all symbologies by enabling **ReturnCheckDigit** option.

| Option Selected         | Is the check digit returned? |            |            |            |            |            |
|-------------------------|------------------------------|------------|------------|------------|------------|------------|
|                         | EAN-13                       | EAN-8      | UPC-A      | UPC-E      | Code39     | I2of5      |
| ReturnCheckDigit        | <b>Yes</b>                   | <b>Yes</b> | <b>Yes</b> | <b>Yes</b> | <b>Yes</b> | <b>Yes</b> |
| EAN13_ReturnCheckDigit  | <b>Yes</b>                   | No effect  |
| EAN8_ReturnCheckDigit   | No effect                    | <b>Yes</b> | No effect  | No effect  | No effect  | No effect  |
| UPCA_ReturnCheckDigit   | No effect                    | No effect  | <b>Yes</b> | No effect  | No effect  | No effect  |
| UPCE_ReturnCheckDigit   | No effect                    | No effect  | No effect  | <b>Yes</b> | No effect  | No effect  |
| Code39_ReturnCheckDigit | No effect                    | No effect  | No effect  | No effect  | <b>Yes</b> | No effect  |
| I2of5_ReturnCheckDigit  | No effect                    | No effect  | No effect  | No effect  | No effect  | <b>Yes</b> |

Table 12 - Transmission of "Check Digit"

## Resolution of Inconsistencies

Three types of inconsistencies could arise in the assignment of symbology options. The decoder has pre-defined strategies to resolve these inconsistencies: If **UPCE\_as\_EAN13** is true, then **UPCE\_as\_UPCA** is ignored.

If symbology conversion is selected but the target symbology is not enabled, then the decoder still outputs the symbol in the target symbology. For example, suppose UPC-E is enabled and **UPCE\_as\_EAN13** is true but EAN-13 is disabled. All UPC-E symbols will be shown as EAN-13 and EAN-13 options (if specified) will be applied. For the two symbologies that have optional check digits, Code39 and Interleave 2 of 5, the decoder will always transmit the check digit if the verification is disabled.

| Verify Check Digit | Return Check Digit  | Description                                    |
|--------------------|---------------------|--|
| Disabled           | Enabled or Disabled | Check digit is not verified but is transmitted |
| Enabled            | Disabled            | Check digit is verified but is not transmitted |
| Enabled            | Enabled             | Check digit is verified and is transmitted     |

Table 13 - Resolution of Inconsistencies

## A.3 Miscellaneous Barcode Information

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### *Height of a Linear Barcode*

Industry standards suggest a height of either 6.5mm or 15% of the symbol length, whichever is greater. Symbols of less than recommended heights may cause recognition problems.

### *Check Characters*

Yes, we recommend the use of check-characters in barcodes. Operating without check-characters is not safe and will lead to errors that are costly to correct. Using check-characters positively affects data integrity especially when character density is at the limits and/or image quality is not at its best.

### *Prevent Interleave 2 of 5 Partial Reading*

A partial scan of an Interleave 2 of 5 symbol may decode and cause incorrect data to be read. To prevent partial scans on long symbols, you should include bearer bars. These are bars that run along the top and bottom edges of the barcode in the scanning direction. If a partial scan of the barcode occurs, the scanning beam will hit the bearer bar and will not decode. The bearer bar must touch the top and bottom of all the bars and must be at least 3 times as wide.

Another solution for the short scanning problem is to fix all Interleave 2 of 5 symbols to a set number of digits. Zeros can be used to pad the data to the set number of digits. The application program would then be set to only accept scans of the correct number of digits.

Finally, a check digit may be used. The Interleave 2 of 5 symbology has an optional check character which uses a weighted Modulo 10 scheme. The check character is the last character in the symbol and should be checked by the decoder and then transmitted with the data. Since Interleave 2 of 5 must always have an even number of digits, the leftmost character may need to be a zero when the check character is added. The standard check digit is calculated by assigning alternating 3,1,3,1... weights to respective data digits. These weights are then multiplied by their respective data digits and the products are summed. The check digit is the digit needed to be added to the sum to make it an even multiple of 10. An example would be if the sum of the products was 37, then the check digit would be 3.

## *Equation to Determining Potential Number of Stored Barcodes*

The number of barcodes that can be stored in the KDC memory depends on the size of the barcodes.

**Example:** *If only UPCA barcodes are scanned and the check digit is not transmitted, then each barcode takes up 11 (barcode data) + 2 (added bytes) + 2 (length and type) + 4 (time stamp) = 19 bytes. The maximum number of UPCA barcodes that can be saved is  $204,800/19 = 10,778$ . However, KDC has limited the maximum number of barcode as 10,240 and users can't store more than 10,240 barcodes in 2.85/86 version. 3.0x version allows user to store maximum 204,800 barcodes.*

## *Data Buffer Full*

When the data buffer is full, the KDC displays a message, **Buffer Full**, ignoring any command to scan barcodes. You must reset the data buffer to continue data collection.

# APPENDIX B – FAQ

## B.1 Symbology

### Q: What barcode symbologies are supported by the KDC?

A: The KDC100/200/250/410/415 support 1D barcode only. KDC300/520/425 support most major 1D, 2D barcode symbologies and OCR.

| <b>KDC300/420/425</b>  | <b>KDC100/200/250/410/415</b>   |
|--|---|
| <b><u>2D Barcodes</u></b>  | <b><u>1D Barcodes</u></b>   |
| AztecCode, AztecRunes, CodablockF, Code16K, Code49, DataMatrix, MaxiCode, MicroPDF, PDF417, QRCode, and HanXin Code  | EAN13<br>EAN8<br>UPCA<br>UPCE<br>Bookland EAN<br>EAN13 with Add-on<br>EAN8 with Add-on<br>UPCA with Add-on<br>UPCE with Add-on<br>Interleave 2 of 5<br>ITF14<br>Code128<br>Codabar<br>GS1-128<br>Code39<br>Code93<br>Code35 |
| <b><u>1D Barcodes</u></b>  |   |
| Codabar, Code11, Code32, Code39, Code128, EAN8, EAN13, GS1-128, I2of5, MSI, Plessey, PosiCode, GS1 DATABAR OMNI, GS1 Limited, GS1 Expanded, S2of5IA, S2of5ID, TLC39, Telepen, Trioptic, UPCA, and UPCE |   |
| <b><u>Postal Barcodes</u></b>  |   |
| AusPost, CanadaPost, ChinaPost, JapanPost, KoreaPost, KixPost, Planet Code, Postnet (US), and UKPost   |   |
| <b><u>OCR Fonts</u></b>  |   |
| OCR-A, OCR-B, OCRUSCurrency, OCRMICRE13B, and OCRSEMIFONT  |   |

Table 14 – Listing of Symbologies Supported by KDC

## B.2 Host Interface

---

**Q: What interface ports are supported by the KDC?**

A: The KDC100 has two USB ports - Swing out Type A and ultra mini USB ports which support USB to Serial protocol. KDC200/250/300/400 have one ultra mini USB port which supports USB to Serial protocol and Bluetooth which supports HID/SPP/MFi *Bluetooth* profiles

## B.3 Battery

---

**Q: How long will the KDC battery last before it needs to be replaced?**

A: The battery on the KDC can be charged at least 300 times before it needs to be replaced.

**Q: How long does it take to charge the KDC?**

A: It takes about 2 hours to charge the KDC100/200, 4 hours to charge the KDC250/300 and 5 hours to charge the KDC400.

**Q: How many barcodes can a fully charged KDC scan?**

A: If user scans a barcode every 5 seconds, KDC100 scans more than 5,000 barcodes, KDC200 scans more than 3,500 barcodes, KDC250 scans more than 10,000 scans, KDC300 scans more than 8,000 scans and KDC410/415 scans more than 20,000 scans and KDC420/425 scans more than 15,000 scans.

**Q: How long will the KDC battery lasts in the sleep mode?**

A: KDC100 lasts more than 1,200 hours, KDC200 lasts more than 48 hours while connected in Bluetooth, KDC250 lasts more than 12 hours while GPS is power on and Bluetooth is connected, KDC300 lasts more than 100 hours while connected in Bluetooth and KDC400 lasts more than 200 hours while connected in Bluetooth.

**Q: Can I replace the KDC200 battery?**

A: Yes. The KDC has a separate compartment for the battery which can be opened easily with a screw driver. Contact your distributor for a replacement battery.

## B.4 Memory

---

**Q: How many barcodes can be stored in the KDC?**

A: KDC has basic 180KB data memory and optional 4MB extended memory. 180KB can store more than 10,000 UPC barcodes and 4MB can store maximum 204,800 barcodes. FW86 version uses 100KB for database area and user data memory is 80KB.

**Q: Can I download stored barcodes or wedge barcodes to my application?**

A: Yes. KTSync<sup>®</sup> is keyboard wedging, application generation, DB look up and inventory program bundled with the KDC200/250/300/400 which supports host devices running on Android<sup>®</sup>, iPhone/iPad/iPod touch, Blackberry<sup>®</sup>, Windows<sup>®</sup> XP/Vista/7/Mobile5.0+. KDC100 only supports Windows XP/Vista/7 version.

**Q: Does the KDC support *Android<sup>®</sup>*, *iPhone/iPad/iPod touch<sup>®</sup>*, *Blackberry<sup>®</sup>*, *Mac<sup>®</sup>* and *Windows<sup>®</sup>* devices?**

A: KTSync<sup>®</sup> supports Android<sup>®</sup>, iPhone/iPad/iPod touch, Blackberry<sup>®</sup>, Mac<sup>®</sup> and Windows<sup>®</sup> devices currently.

## B.5 Programming

---

**Q: Can the KDC be programmed by a KoamTac partner?**

A: Yes. KoamTac's Application Generation tool provides an enhanced programming environment for developing custom applications for the KDC.

1. KDC supports, at most, three step data collection processes including the ability to perform various data functionality features.
2. KDC's database lookup function provides enhanced data processes enabling the KDC to display database results with or without scanned barcode data.
3. KDC can display a message from Host enabling two way communications and a messaging application.

**Q: Does KoamTac provide customization services for the KDC?**

A: Yes. Custom applications or projects can be developed by KoamTac engineers. This service is provided for an additional fee to KoamTac. For more information regarding this service, please contact KoamTac.

**Q: Can a partner develop a PC or Smartphone application for the KDC?**

A: A software development kit for Windows<sup>®</sup> XP/Vista/7/Mobile5.0+, Android is available on KoamTac support page. Android<sup>®</sup>, iPhone/iPad/iPod touch, Blackberry<sup>®</sup>, Mac<sup>®</sup> SDK are available through KoamTac authorized distributors.

# APPENDIX C - SPECIAL BARCODES

## (KDC410/KDC415)

### C.1 Set Symbologies

---

Enable EAN13



Disable EAN13



Enable EAN8



Disable EAN8



Enable UPCA



Disable UPCA



Enable UPCE



Disable UPCE



Enable Code39



Disable Code39





Enable ITF14



Disable ITF14



Enable Code128



Disable Code128



Enable I2 of 5



Disable I2 of 5



Enable Codabar



Disable Codabar



Enable EAN128



Disable EAN128



Enable Code93



Disable Code93



Enable Code35



Disable Code35



Enable Bookland EAN



Disable Bookland EAN



Enable EAN13 with Addon



Disable EAN13 with Addon



Enable EAN8 with Addon



Disable EAN8 with Addon



Enable UPCA with Addon



Disable UPCA with Addon



Enable UPCE with Addon



Disable UPCE with Addon



## C.2 Barcode Options

---

Codabar - do NOT transmit start/stop



Codabar - transmit start/stop



Convert UPCE to UPCA



Do NOT convert UPCE to UPCA



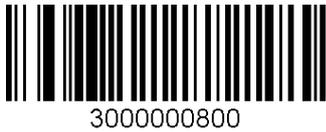
Convert EAN8 to EAN13



Do NOT Return Check Digit



Convert UPCE to EAN13



Do NOT Verify Check Digit



Return Check Digit



Do NOT convert EAN8 to EAN13



Verify Check Digit



Do NOT convert UPCE to EAN13



Convert UPCA to EAN13



3000080000

Do NOT Convert UPCA to EAN13



3100080000

Verify check digit for I2of5



3000400000

Do NOT verify check digit for I2of5



3100400000

Verify check digit for Code39



3000800000

Do NOT verify check digit for Code39



3100800000

Return check digit for I2of5



3004000000

Do NOT return check digit for I2of5



3104000000

Return check digit for Code39



3008000000

Do NOT return check digit for Code39



3108000000

Return check digit for UPCE



3010000000

Do NOT return check digit for UPCE



3110000000

Return check digit for UPCA



3020000000

Do NOT return check digit for UPCA



3120000000

Return check digit for EAN8



3040000000

Do NOT return check digit for EAN8



3140000000

Return check digit for EAN13



3080000000

Do NOT return check digit for EAN13



3180000000

## C.3 Delete Last Scanned Barcode

---



## C.4 Scan Options

---

Wide scan angle



Narrow scan angle



Normal filter mode



High filter mode



Auto Trigger Enable



Auto Trigger Disable



Continuous



Short



Medium



Long



Extra Long



## C.5 Scan Timeout

---

Timeout = 500msec



Timeout = 1sec



Timeout = 2sec

Timeout = 3sec



Timeout = 4sec



Timeout = 5sec

Timeout = 6sec



Timeout = 7sec



Timeout = 8sec

Timeout = 9sec



Timeout = 10sec





## C.6 Minimum Barcode Length

---

Minimum Length = 2



Minimum Length = 3



Minimum Length = 4



Minimum Length = 5



Minimum Length = 6



Minimum Length = 7



Minimum Length = 8



Minimum Length = 9



Minimum Length = 10



Minimum Length = 11



Minimum Length = 12



Minimum Length = 13



Minimum Length = 14



Minimum Length = 15



Minimum Length = 16



Minimum Length = 17



Minimum Length = 18



Minimum Length = 19



Minimum Length = 20



014

Minimum Length = 21



015

Minimum Length = 22



016

Minimum Length = 23



017

Minimum Length = 24



018

Minimum Length = 25



019

Minimum Length = 26



01A

Minimum Length = 27



01B

Minimum Length = 28



01C

Minimum Length = 29



01D

Minimum Length = 30



01E

Minimum Length = 31



01F

Minimum Length = 32



020

Minimum Length = 33



021

Minimum Length = 34



022

Minimum Length = 35



023

Minimum Length = 36



024

## C.7 Security Level

---

Security level = 1



41

Security level = 2



42

Security level = 3



43

Security level = 4



44

## C.8 Data Process - Wedge/Store

---

Wedge Only



82000

Wedge & Store



82001

Store Only



82002

Wedge & Store if Sent



82003

Wedge & Store if Not Sent



82004

## C.9 Data Process – Data Edit

---

Prefix Enter Start



Suffix Enter Start



Prefix/Suffix Enter Finish



Prefix/Suffix Enter Cancel



Delete Prefix



Delete Suffix



Display Prefix



Display Suffix



## C.10 Data Process - Data Format-Handshake

---

Data format - Barcode only



Data format - Packet data



Enable Handshake



Disable Handshake



## C.11 Data Process - Termination Character & Duplicate Check

---

None



CR



LF



CR+LF



Tab



Check Duplicate Enabled



Check Duplicate Disabled



## C.12 Bluetooth

---

Enable Bluetooth Power



Disable Bluetooth Power



Enter Pairing Mode



Discovering Enable



Discovering Disable



Connect To Last



Connecting to



Enable Auto Connect



Disable Auto Connect



Enable Auto Power Off



Disable Auto Power Off



Enable Auto Power On



66001

Disable Auto Power On



66010

Disconnect



6D000

HID Sync



6E000

Enable Power Off Msg



63001

Disable Power Off Msg



63010

BT MAC Address



63100

BT FW Version



63200

Enable Wakeup Nulls



63401

Disable Wakeup Nulls



63410

Confirm To Send Enabled



63501

Confirm To Send Disabled



63510

Bluetooth Device type SPP



6A000

Bluetooth Device type HID iOS



6A001

Bluetooth Device type IPHONE



6A002

Bluetooth Device type SPP2.0



6A003

Bluetooth Device type HID Normal



6A004

BT Toggle Enable



6B001

BT Toggle Disable



6B010

HID Control Character Disabled



H2000

HID Control Character Alt+Numpad



H2001

HID Control Character ^+Character



H2002

## C.13 Bluetooth Auto Power On Time

---

Auto Power On Time Disabled



Auto Power On Time 1sec



Auto Power On Time 2sec



Auto Power On Time 3sec



Auto Power On Time 4sec



Auto Power On Time 5sec



Auto Power On Time 6sec



Auto Power On Time 7sec



Auto Power On Time 8sec



Auto Power On Time 9sec



Auto Power On Time 10sec



6700A

Enable Beep Warning



68001

Disable Beep Warning



68010

## C.14 Bluetooth PWR Off Time

---

1min



2min



3min



4min



5min



6min



7min



8min



9min



10min



11min



12min



13min



14min



15min



16min



17min



18min



19min



20min



21min



22min



23min



24min



25min



26min



27min



28min



29min



30min



## C.15 Auto lock Time

---

0 min (Never)



1 min



2 min



3 min



4 min



5 min



10 min



15 min



## C.16 HID Keyboard layout

---

US



German



French



Italian



Spanish



## C.17 HID Initial Delay

---

Disabled



1 second



2 seconds



3 seconds



5 seconds



10 seconds



## C.18 HID Character Delay

---

Disabled



H1000

10 msec



H100A

20 msec



H1014

30 msec



H101E

50 msec



H1032

100 msec



H1064

## C.19 HID Control Character

---

Disabled



H2000

Alt+Numpad



H2001

^+Character



H2002

## C.20 System

---

Memory Status



Reset Memory



Auto Erase Enable



Auto Erase Disable



Date/Time



Battery



Version



Button Lock



Button Unlock



Enable Beep Sound



Disable Beep Sound



High Beep Volume



5D001

Low Beep Volume



5D010

Enable Auto Menu Exit



58001

Disable Auto Menu Exit



58010

Enable Port Status



58101

Disable Port Status



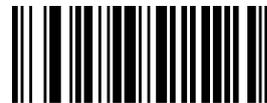
58100

Time & Battery



58200

Type & Time



58201

Type & Battery



58202

Memory Status



50001

GPS Data (KDC250)



58205

Barcode Only



58204

Enable Scrolling



Disable Scrolling



Factory Default



Confirm Memory size change



0.5M / 3.5M



1M / 3M



2M / 2M



3M / 1M



4M / 0M



## C.21 Sleep Timeout

---

Disable



1sec



2sec



3sec



4sec



5sec



10sec



20sec



30sec



1min



2min



5min



10min



51258

## C.22 ETC

---

Reverse Direction Enable



Return check digit Enable



Verify check digit Enable



Reverse Direction Disable



Return check digit Disable



Verify check digit Disable



## C.23 Function

---

F1



F2



F3



F4



F5



F6



F7



F8



F9



F10



F11



F12



## C.24 Number

---

0



1



2



3



4



5



6



7



8



9



## C.25 Lower Case Alphabet

---

a



b



c



d



e



f



g



h



i



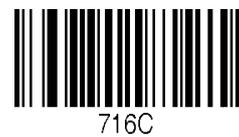
j



k



l



m



716D

n



716E

o



716F

p



7170

q



7171

r



7172

s



7173

t



7174

u



7175

v



7176

w



7177

x



7178

y



7179

z



717A

## C.26 Upper Case Alphabet

---

A



B



C



D



E



F



G



H



I



J



K



L



M



714D

N



714E

O



714F

P



7150

Q



7151

R



7152

S



7153

T



7154

U



7155

V



7156

W



7157

X



7158

Y



7159

Z



715A

## C.27 Control Character

---

BS



TAB



LF



VT



CR



ESC



Space



DEL



## C.28 Symbol Character

---

!



7121

“



7122

#



7123

\$



7124

%



7125

&amp;



7126

‘



7127

(



7128

)



7129

\*



712A

+



712B

,



712C

-



712D

.



712E

/



712F

:



713A

;



713B

<



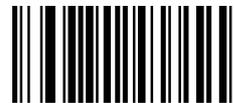
713C

=



713D

>



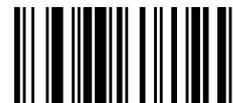
713E

?



713F

@



7140

[



715B

\



715C

]



715D

^



715E

-



715F

,



7160

{



717B

|



717C

}



717D

~



717E

Start-String



7201

Stop-String



7210

## Note:

- *You can compose a string up to 16 characters.*
- *A string would be composed by scanning the “Start-String”, number/alphabet/special characters, and “Stop-String” special barcodes.*
- *The KDC will abort string composition if you do not scan “Stop-String” in one minute after scanning “Start-String” and number/alphabet/special characters.*

# APPENDIX D - SPECIAL BARCODES (KDC420/425)

## D.1 Set Symbologies

---

Please refer to Honeywell Adaptus® Technology enabled scanner user manual such as 4600 or 4820.

## D.2 Barcode Options

---

Please refer to Honeywell Adaptus® Technology enabled scanner user manual such as 4600 or 4820.

## D.3 Delete Last Scanned Barcode

---



†MKDC80001.

## D.4 Scan Options

---

Auto trigger Enable



Auto trigger Disable



Reread Delay Continuous



Reread Delay Short



Reread Delay Medium



Reread Delay Long



Extra Long



## D.5 Scan Timeout

---

Timeout = 500msec



Timeout = 1sec



Timeout = 2sec



Timeout = 3sec



Timeout = 4sec



Timeout = 5sec



Timeout = 6sec



Timeout = 7sec



Timeout = 8sec



Timeout = 9sec



Timeout = 10sec



## D.6 Minimum Barcode Length

---

Minimum Length = 2



Minimum Length = 3



Minimum Length = 4



Minimum Length = 5



Minimum Length = 6



Minimum Length = 7



Minimum Length = 8



Minimum Length = 9



Minimum Length = 10



Minimum Length = 11



Minimum Length = 12



Minimum Length = 13



Minimum Length = 14



Minimum Length = 15



Minimum Length = 16



Minimum Length = 17



Minimum Length = 18



Minimum Length = 19



Minimum Length = 20



Minimum Length = 21



Minimum Length = 22



Minimum Length = 23



Minimum Length = 24



Minimum Length = 25



Minimum Length = 26



┆MKDC01A.

Minimum Length = 27



┆MKDC01B.

Minimum Length = 28



┆MKDC01C.

Minimum Length = 29



┆MKDC01D.

Minimum Length = 30



┆MKDC01E.

Minimum Length = 31



┆MKDC01F.

Minimum Length = 32



┆MKDC020.

Minimum Length = 33



┆MKDC021.

Minimum Length = 34



┆MKDC022.

Minimum Length = 35



┆MKDC023.

Minimum Length = 36



┆MKDC024.

## D.7 Image Capture

---

Capture Now



Image Capture Enabled



Image Format JPEG



Image Format BMP



Pixel Depth (1 bit per pixel)



Pixel Depth (8 bit per pixel)



## D.8 Data Process - Wedge/Store

---

Wedge Only



Wedge & Store



Store Only



Wedge & Store if Sent



Wedge & Store if Not Sent



## D.9 Data Process - Data Edit

---

Prefix Enter Start



Suffix Enter Start



Prefix / Suffix Enter Finish



Prefix / Suffix Enter Cancel



Delete Prefix



Delete Suffix



Display Prefix



Display Suffix



## D.10 Data Process – Data Format, Handshake and Duplicate Check

---

Data format - Barcode only



Data format - Packet data



Enable Handshake



Disable Handshake



## D.11 Data Process - Termination Character

---

None



CR



LF



CR+LF



Tab



## D.12 Data Process – Check Duplicate

---

Enable Check Duplicate



†MKDC89001.

Disable Check Duplicate



†MKDC89010.

## D.13 Bluetooth

---

Enable Bluetooth Power



┘MKDC60001.

Disable Bluetooth Power



┘MKDC60010.

Enter Pairing Mode



┘MKDC61001.

Enable Discovering



┘MKDC61101.

Discovering Disable



┘MKDC61110.

Connect To Last



┘MKDC61201.

Enable Auto Connect



┘MKDC62001.

Disable Auto Connect



┘MKDC62010.

Enable Auto Power Off



┘MKDC64001.

Disable Auto Power Off



┘MKDC64010.

Enable Auto Power On



┘MKDC66001.

Disable Auto Power On



┘MKDC66010.

## D.14 Bluetooth Auto Power On Time

---

Disable



1 sec.



2 sec.



3 sec.



4 sec.



5 sec.



6 sec.



7 sec.



8 sec.



9 sec.



10 sec.



Enable Beep Warning



┌MKDC68001.

Disable Beep Warning



┌MKDC68010.

## D.15 Bluetooth Power Off Time

---

1min



┆MKDC69001.

2min



┆MKDC69002.

3min



┆MKDC69003.

4min



┆MKDC69004.

5min



┆MKDC69005.

6min



┆MKDC69006.

7min



┆MKDC69007.

8min



┆MKDC69008.

9min



┆MKDC69009.

10min



┆MKDC6900A.

11min



┆MKDC6900B.

12min



┆MKDC6900C.

13min



┆MKDC6900D.

14min



┆MKDC6900E.

15min



┆MKDC6900F.

16min



┆MKDC69010.

17min



┆MKDC69011.

18min



┆MKDC69012.

19min



┆MKDC69013.

20min



┆MKDC69014.

21min



┆MKDC69015.

22min



┆MKDC69016.

23min



┆MKDC69017.

24min



┆MKDC69018.

25min



┆MKDC69019.

26min



┆MKDC6901A.

27min



┆MKDC6901B.

28min



┆MKDC6901C.

29min



┆MKDC6901D.

30min



┆MKDC6901E.

Enable Power Off Msg



┆MKDC63001.

Disable Power Off Msg



┆MKDC63010.

Mac Address



┆MKDC63100.

BT FW Version



┆MKDC63200.

Enable Wakeup Null



┆MKDC63401.

Disable Wakeup Null



┆MKDC63410.

Confirm To Send Enabled



┘MKDC63501.

Confirm To Send Disabled



┘MKDC63510.

Bluetooth Device Type SPP



┘MKDC6A000.

Bluetooth Device Type HID iOS



┘MKDC6A001.

Bluetooth Device Type IPHONE



┘MKDC6A002.

Bluetooth Device Type SPP2.0



┘MKDC6A003.

Bluetooth Device Type HID Normal



┘MKDC6A004.

BT Toggle Enabled



┘MKDC6B001.

BT Toggle Disabled



┘MKDC6B010.

HID Sync



┘MKDC6E000.

## D.16 HID Autolock Time

---

0 min (Never)



1 min



2 min



3 min



4 min



5 min



10 min



15 min



Disconnect



## D.17 HID Keyboard layout

---

US



German



French



Italian



Spanish



## D.18 HID Initial Delay

---

Disabled



1 second



2 seconds



3 seconds



5 seconds



10 seconds



## D.19 HID Character Delay

---

Disabled



┘MKDCH1000.

10 msec



┘MKDCH100A.

20 msec



┘MKDCH1014.

30 msec



┘MKDCH101E.

50 msec



┘MKDCH1032.

100 msec



┘MKDCH1064.

D.20 HID Control Character

Disabled



␣MKDCH2000.

Alt+Numpad



␣MKDCH2001.

^+Character

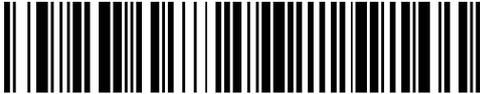


␣MKDCH2002.

## D.21 System

---

### Memory Status



┆MKDC50001.

### Reset Memory



┆MKDC50002.

### Date/Time



┆MKDC52001.

### Battery



┆MKDC53001.

### Version



┆MKDC54001.

### Button Lock



┆MKDC55001.

### Button Unlock



┆MKDC55010.

### Enable Auto Menu Exit



┆MKDC58001.

### Disable Auto Menu Exit



┆MKDC58010.

### Enable Port Status



┆MKDC58100.

### Disable Port Status



┆MKDC58101.

Time & Battery



Type & Time



Type & Battery



Barcode Only



Memory Status



Enable Scrolling



Disable Scrolling



Factory Default



KDC Reset



Confirm memory size



0.5M / 3.5M



†MKDC5E000.

1M / 3M



†MKDC5E001.

2M / 2M



†MKDC5E002.

3M / 1M



†MKDC5E003.

4M / 0M



†MKDC5E004.

## D.22 Sleep Timeout

---

Disable



1sec



2sec



3sec



4sec



5sec



10sec



20sec



30sec



1min



2min



5min



10min



┆MKDC51258.

Date/Time



┆MKDC52001.

Battery



┆MKDC53001.

Version



┆MKDC54001.

Button Lock



┆MKDC55001.

Button Unlock



┆MKDC55010.

Beep Sound Enable



┆MKDC56001.

Beep Sound Disable



┆MKDC56010.

Beep Volume High



┆MKDC5D001.

Beep Volume Low



┆MKDC5D010.

Enable Auto Menu Exit



┆MKDC58001.

Disable Auto Menu Exit



┆MKDC58010.

Enable Port Status



┆MKDC58101.

Disable Port Status



┆MKDC58100.

Time & Battery



┆MKDC58200.

Type & Time



┆MKDC58201.

Type & Battery



┆MKDC58202.

Memory Status



┆MKDC50001.

Auto Erase Enable



┆MKDC5F001.

Auto Erase Disable



┆MKDC5F010.

Menu Barcode Enable



┆MKDC52401.

Menu Barcode Disable



┆MKDC52410.

Enable Scrolling



┌MKDC59001.

Disable Scrolling



┌MKDC59010.

Factory Default



┌MKDC57001.

KDC Reset



┌MKDCA0000.

## D.23 Function

---

F1



F2



F3



F4



F5



F6



F7



F8



F9



F10



F11



F12



## D.24 Number

---

0



1



2



3



4



5



6



7



8



9



## D.25 Lower Case Alphabet

---

a



┌MKDC7161.

b



┌MKDC7162.

c



┌MKDC7163.

d



┌MKDC7164.

e



┌MKDC7165.

f



┌MKDC7166.

g



┌MKDC7167.

h



┌MKDC7168.

i



┌MKDC7169.

j



┌MKDC716A.

k



┌MKDC716B.

l



┌MKDC716C.

m



┌MKDC716D.

n



┌MKDC716E.

o



┌MKDC716F.

p



┌MKDC7170.

q



┌MKDC7171.

r



┌MKDC7172.

s



┌MKDC7173.

t



┌MKDC7174.

u



┌MKDC7175.

v



┌MKDC7176.

w



┌MKDC7177.

x



┌MKDC7178.

y



TMKDC7179.

z



TMKDC717A.

## D.26 Upper Case Alphabet

---

A



B



C



D



E



F



G



H



I



J



K



L



M



┌MKDC714D.

N



┌MKDC714E.

O



┌MKDC714F.

P



┌MKDC7150.

Q



┌MKDC7151.

R



┌MKDC7152.

S



┌MKDC7153.

T



┌MKDC7154.

U



┌MKDC7155.

V



┌MKDC7156.

W



┌MKDC7157.

X



┌MKDC7158.

Y



TKMDC7159.

Z



TKMDC715A.

## D.27 Control Character

---

BS



TAB



LF



VT



CR



ESC



Space



DEL



## D.28 Symbol Character

---

!



┘MKDC7121.

“



┘MKDC7122.

#



┘MKDC7123.

\$



┘MKDC7124.

%



┘MKDC7125.

&amp;



┘MKDC7126.

‘



┘MKDC7127.

(



┘MKDC7128.

)



┘MKDC7129.

\*



┘MKDC712A.

+



┘MKDC712B.

,



┘MKDC712C.

-



┌MKDC712D.

.



┌MKDC712E.

/



┌MKDC712F.

:



┌MKDC713A.

;



┌MKDC713B.

<



┌MKDC713C.

=



┌MKDC713D.

>



┌MKDC713E.

?



┌MKDC713F.

@



┌MKDC7140.

[



┌MKDC715B.

\



┌MKDC715C.

]



⌈MKDC715D.

^



⌈MKDC715E.

\_



⌈MKDC715F.

,



⌈MKDC7160.

{



⌈MKDC717B.

|



⌈MKDC717C.

}



⌈MKDC717D.

~



⌈MKDC717E.

Start-String



⌈MKDC7201.

Stop-String



⌈MKDC7210.

## Note:

- *You can compose a string up to 16 characters.*
- *A string would be composed by scanning the “Start-String”, number/alphabet/special characters, and “Stop-String” special barcodes.*
- *The KDC will abort string composition if you do not scan “Stop-String” in one minute after scanning “Start-String” and number/alphabet/special characters.*

# APPENDIX E - SPECIAL BARCODES

## (KDC415/425 MSR)

### E.1 KDC415 MSR

---

#### Beep On Error

No Beep On Error



Beep On Error



#### Data Format

MSR Data Only



Packet data



#### Encrypt Mode

Disabled



AES



**Track Selection**

Track1



M3001

Track2



M3002

Track3



M3004

**Track Unselection**

Track1



M4001

Track2



M4002

Track3



M4004

**Track Separator**

None



M5000

Space



M5001

Comma



M5002

Semi Colon



M5003

CR



M5004

LF



M5005

CR\_LF



M5006

Tab



M5007

## E.2 KDC425 MSR

---

### Beep On Error

No Beep On Error



Beep On Error



### Data Format

MSR Data Only



Packet data



### Encrypt Mode

Disabled



AES



### Track Selection

Track1



Track2



Track3



┘MKDCM3004.

**Track Unselection**

Track1



┘MKDCM4001.

Track2



┘MKDCM4002.

Track3



┘MKDCM4004.

**Track Separator**

None



┘MKDCM5000.

Space



┘MKDCM5001.

Comma



┘MKDCM5002.

Semi Colon



┘MKDCM5003.

CR



⌈MKDCM5004.

LF



⌈MKDCM5005.

CR\_LF



⌈MKDCM5006.

Tab



⌈MKDCM5007.

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