# KOAMTAC

# KDC350 User Manual

## (Rev 2.85.Q/2.86.Q/3.04.Q)

October, 2012

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# COPYRIGHT, LICENSE, and WARNING PAGE

# Regulatory Compliance

FCC ID:VH9KDC350

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 difference from that to which the receiver is connected.
4. Consult the dealer or an experienced radio/TV technician for help.

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.

Products intended for sale within the European Union are marked with a CE Mark which indicates compliance to applicable Directives and European Normes (EN), as follows. Amendments to these Directives or ENs are included: Normes (EN), as follows:

**Applicable Directives:**
• Radio and Telecommunications Terminal Equipment Directive 1999/5/EC

Article 2-1-19, 2.4GHz Wide Band low power data communication system



LARN8-IO2A2402/2480TR0.003F1DG1D79


**Laser Compliance.**



Complies with US 21 CFR 1040.10 and 1040.11 except for deviations pursuant to laser notice no. 50,dated June 24, 2007 and IEC 60825-1 (Ed. 2.0)

Complies with IEC60825-1:1993 + A1:1997 + A2:2001


**Battery Warning:**
- Your device contains a rechargeable NiMH battery. Never throw the battery into a fire, as that could cause the battery to explode.
- Never short-circuit the battery by bringing the terminals in contact with another metal object.  This could cause personal injury or a fire, and could also damage the battery.
- Never dispose of used battery with other ordinary solid wastes.  Batteries contain toxic substances.
- Dispose of used battery in accordance with the prevailing community regulations that apply to the disposal of batteries.  Cover the metal terminals with insulating tape.  (This is to prevent accidental short-circuiting).
- Never expose the battery to any liquid.
- Always keep the battery out of reach of infants or small children.
- Never shock the battery by dropping it or throwing it.
- Dispose of a spent or damaged battery promptly.

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

**Product Disposal**
Your device should not be placed in municipal waste. Please check local regulations for disposal of electronic products.


**Bluetooth**
Core Specification: 2.1+EDR

**Apple**
Made for iPhone, Made for iPod, Made for iPad

**Samsung**
Compatible with Galaxy Series

# 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.

| FEATURES | KDC100 | KDC200 | KDC250 | KDC300 | KDC350 | KDC400 |
|---|---|---|---|---|---|---|
| USB CONNECTIONS | 2 | **1** | 1 | 1 | 1 | 1 |
| RECHARGEABLE BATTERY | YES | **YES** | YES | YES | YES | YES |
| SCAN ENGINE | Laser | **Laser** | Laser | Imager | Laser/ Imager | Laser/ Imager |
| AUTOMATIC DATA UPLOAD | YES | **YES** | YES | YES | YES | YES |
| STORES10,000+ BARCODES | YES | **YES** | YES | YES | YES | No |
| KTSYNC® SOFTWARE | YES | **YES** | YES | YES | YES | YES |
| SDK FOR DEVELOPERS | YES | **YES** | YES | YES | YES | YES |
| SUPPORTS MICROSOFT© WINDOWS XP, VISTA, 7 & MOBILE 5.0+ | YES | **YES** | YES | YES | YES | YES |
| ANDROID, BLACKBERRY, IOS | NO | **YES** | YES | YES | YES | YES |
| *BLUETOOTH* | NO | **YES** | YES | YES | YES | YES |
| GPS | NO | **NO** | YES | NO | YES | 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 (KDC100/200/250/300/350) or One Hand Strap (KDC400)
4. KoamTac Installation CD with
   - KTSync $^{©}$ for Microsoft Windows XP, Vista, 7 and Mobile 5.0+
   - KDC Device Driver
   - User   Manual
5. One Protective KDC Rubber Case (KDC100/200/250/300/350) or One Smartphone Protective Rubber Case (KDC400)

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



KDC100/200/250/300/350          KDC400

*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.  All KDC models are similar except for the KDC100 which includes an additional USB connector.

## *KDC100 Barcode Reader and Data Collector*
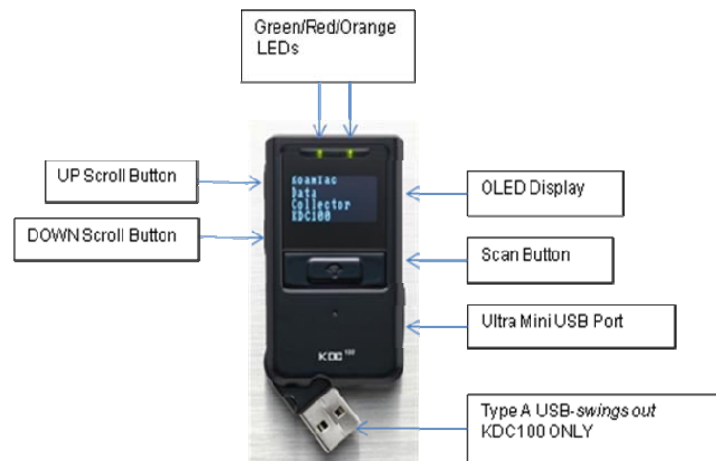


*Figure 2 - Characteristics of KDC100*

## *KDC200 / KDC250 / KDC300/KDC350 Barcode Reader and Data Collector*



*KDC200*

Green/Red/Orange LEDs

OLED Display

Scan Button

UP Scroll Button

DOWN Scroll Button

Ultra Mini USB Port

*KDC250/300*

Green/Red/Orange LEDs

Menu Button

Up Scroll Button

Shift Button

Keypad Button

Scan Button

Funtion Button

Down Scroll Button

Mode Button

Ultra Mini USB Port
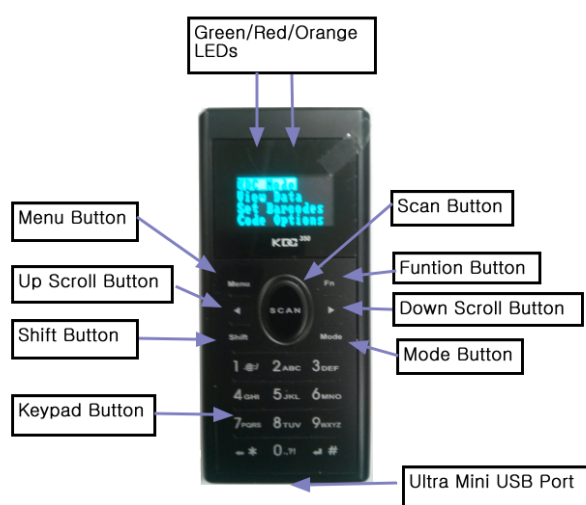
*KDC350*

*Figure 3- Characteristics of KDC200 / KDC250 / KDC300 / KDCC350*

Scan Button

Down Button

LED

USB Port

Scan Button

Up Button

Buzzer Hole

Power Switch

MSR

KDC400

*Figure 4 - Characteristics of KDC400*

# 1.3 KDC350 Specifications

| Specification | Item | Descriptions |
|---|---|---|
| Physical Characteristics | Size | 93.6(L) x 43(W) x 23.9(H) mm |
| | Weight | 84.65g |
| Electrical Characteristics | Battery | Lithium-Ion( 3.7V DC, 1200mAh) |
| | Charging | USB connector |
| | Typical Operating Current | 170mAh@3.3V |
| User Environment | Drop | 1.5m |
| | Temperature | Operating: 0C - 45C<br>Storage: -20C - 45C |
| | Humidity | 5% - 80%(Noncondensing) |
| Performance | Scanning | 100 scnas/sec |
| | Bluetooth | Bluetooth V2.1+EDR, Class2<br>HID/SPP/MFi(Optional 2 ports) |
| | Memory | Flash ROM: 256K + 4MB<br>RAM: 64KB |

# 2. Installation

# 2.1 KoamTac 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.
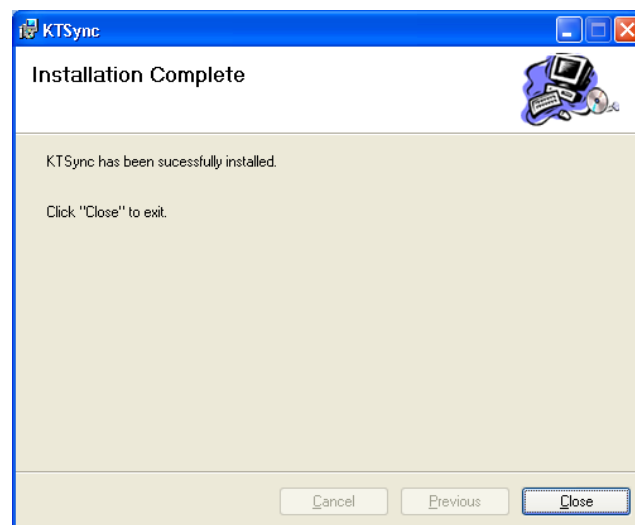
### *Device Driver Installation Wizard*

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
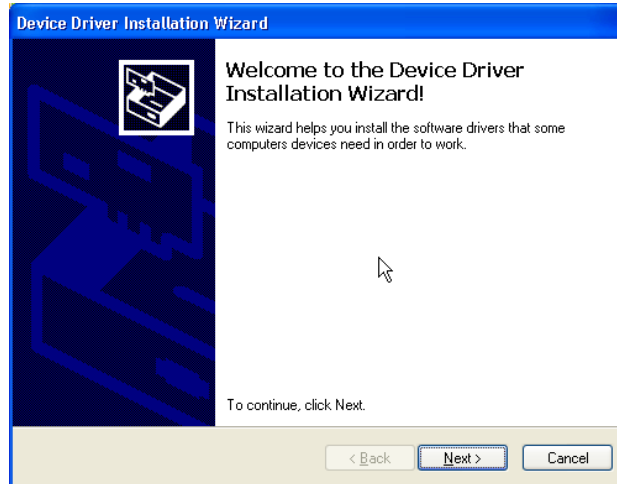


● Click **Continue Anyway** icon in Software Installation Logo testing window
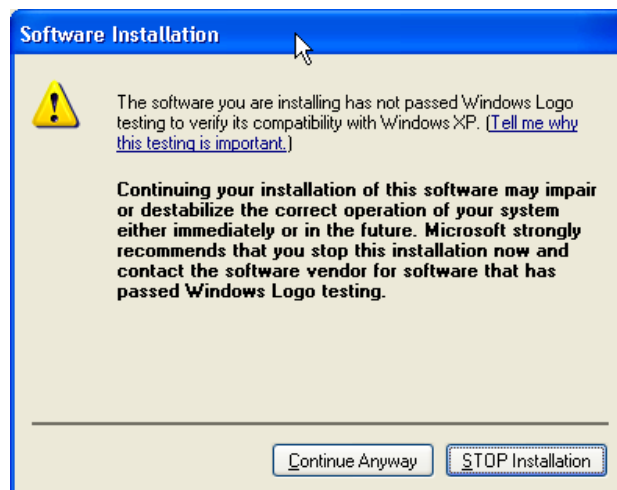


● Click **Finish** icon in Device Driver Installation Wizard window



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### 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.
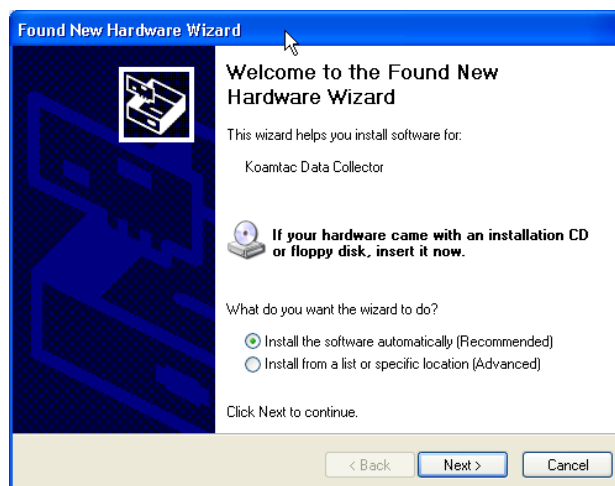
● Click **Continue Anyway** icon in Software Installation Logo testing window



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



## *Verify COM Port Address*

● User can verify installed COM Port in Device Manager



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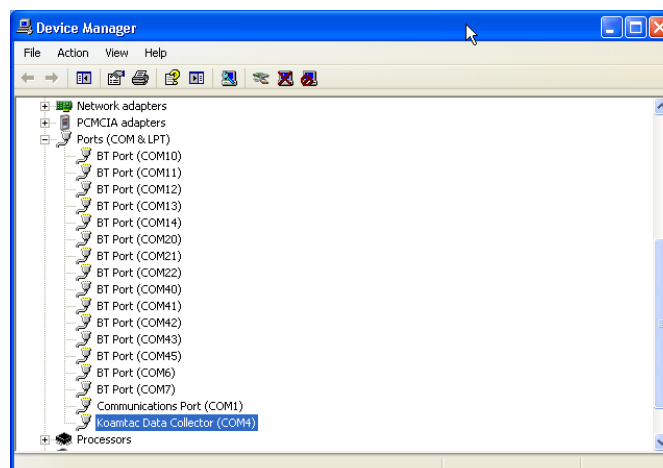
## *Vista and Windows 7*

**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
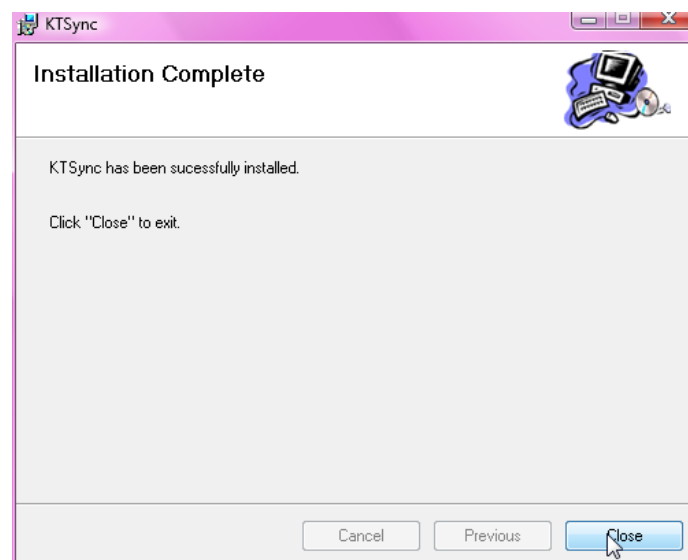


● **Click Install this driver software anyway** in Windows Security window
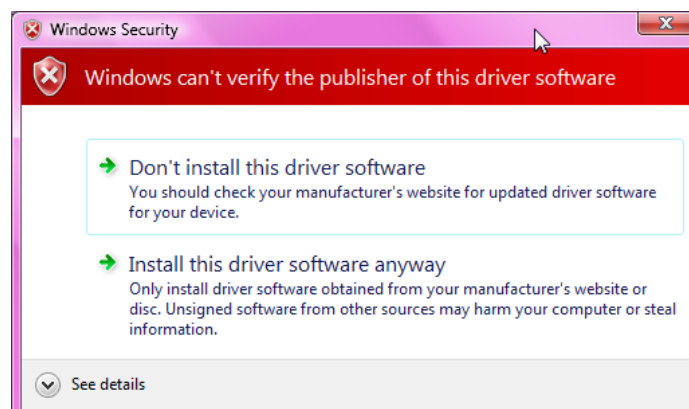
● Click **Finish** icon in Device Driver Installation Wizard window
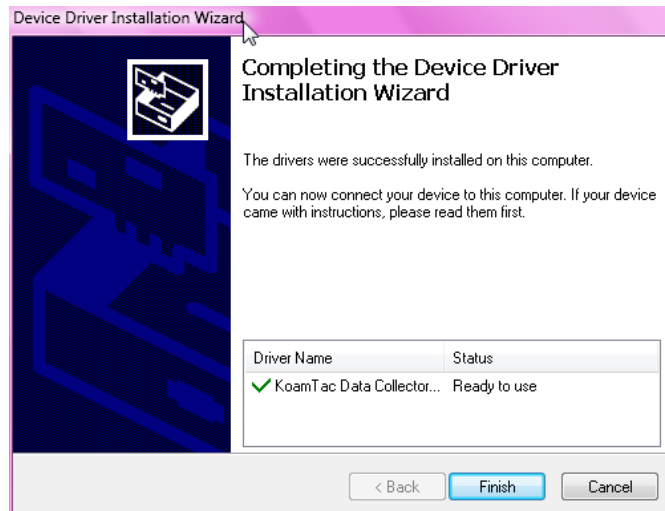


## Connect KDC to Computer

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
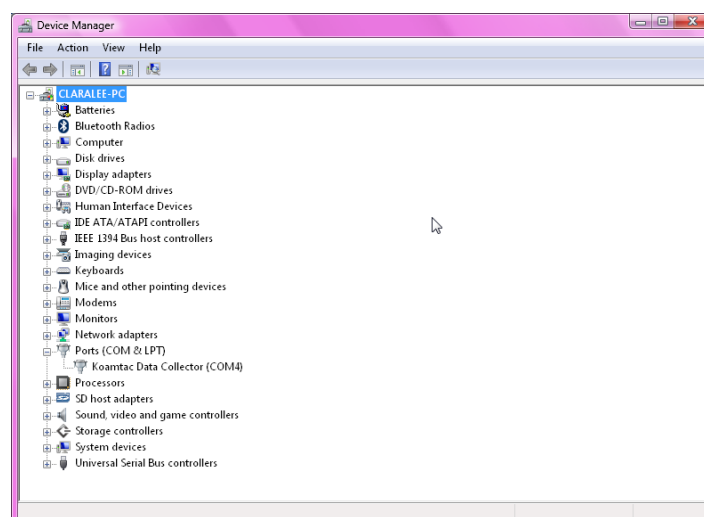
## Windows Mobile 5.0+

**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.
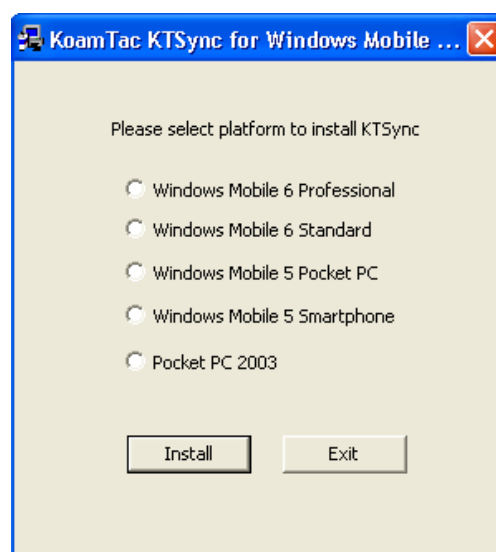


● Click Next icon.
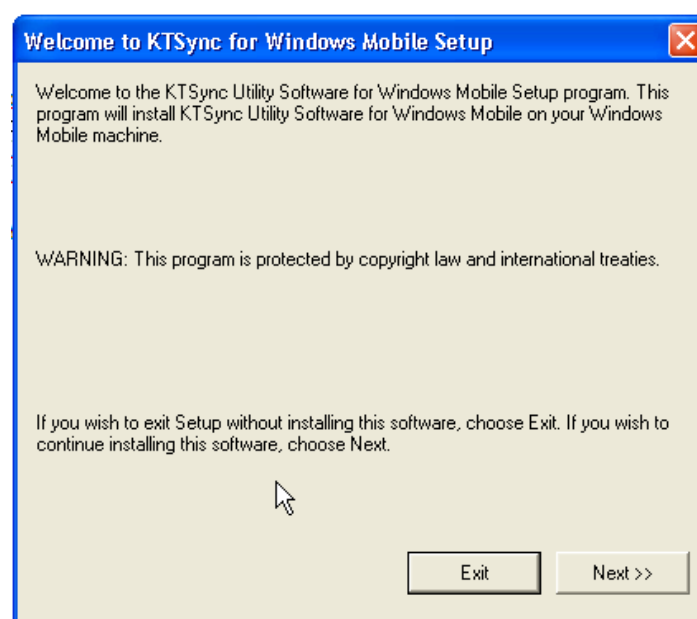
● Click **OK** icon in Pending Application Install window

**Pending Application Install**

On the next mobile device connection, the installed applications will be downloaded to the device.

OK
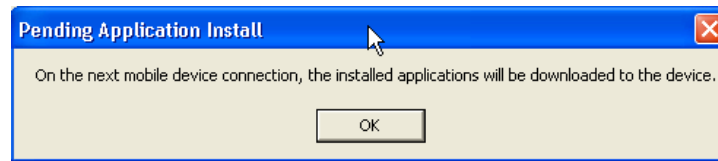
● Follow the instructions on PDA screen

*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

## *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

# 2.2 Manual Installation

**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

### Attach Lanyard to KDC

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

To attach the Lanyard:

1. Fit the thin end of Lanyard 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.

| KDC100 | KDC200 | KDC250/300 | KDC350 | KDC400 |
|--------|--------|------------|--------|--------|
| 2 Hours | 2 Hours | 4 Hours | 5 Hours | 5 Hours |

*Table 2 – Approximate Time to Charge KDC Battery*

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# 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(KDC100/200/250/300/350 only), Chapter 4 –Synchronization, and Appendix C – Special Barcodes.

**CONFIGURATION METHODS FOR THE KDC100/200/250/300/350**

- KDC Menu
- KTSync® Software
- Special Barcodes

Press UP and DOWN Scroll Buttons simultaneously to access the KDC menu.

*Figure 3 - Location of Scroll Buttons*

**CONFIGURATION METHODS FOR THE KDC400**

- KTSync® Software
- Special Barcodes

# 3.2 Basics

## 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. The scanned barcode data will be displayed along with the scan time and battery level. *Depending on the configuration of your KDC, other information may also be displayed.*
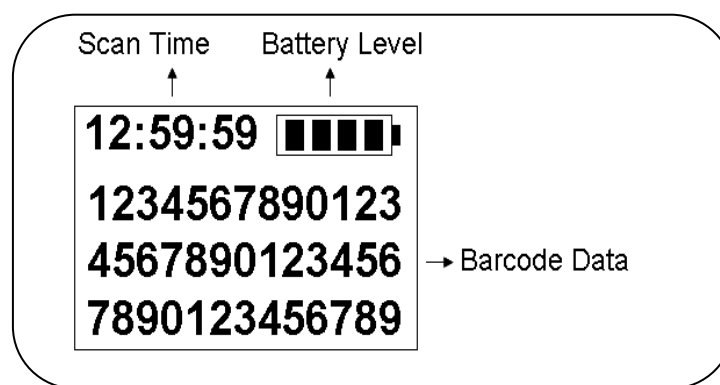


*Figure 4 - KDC Display*

If the scan was unsuccessful, you will hear two beeps, the LEDs will illuminate in red, and the message **Failed reading…** will display. 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 ® program to synchroni ze ba rcode data from the KDC to your PC. Please refer to Chapter 4 for details.

# 3.3 KDC Menus

| Top Menu | Sub Menu | Options | | KDC350 |
|---|---|---|---|---|
| **KDC Mode** | Normal | | | Default |
| | Application | | | Custom Application |
| **View Data** | View/Delete | | | View/Delete Data |
| **Set Barcodes (100/200/25/350)** | EAN13 Enabled/Disabled | | | Enable |
| | EAN8 Enabled/Disabled | | | Enable |
| | UPCA Enabled/Disabled | | | Enable |
| | UPCE Enabled/Disabled | | | Enable |
| | CODE39 Enabled/Disabled | | | Enable |
| | ITF14 Enabled/Disabled | | | Enable |
| | CODE128 Enabled/Disabled | | | Enable |
| | I2of5 Enabled/Disabled | | | Enable |
| | CODABAR Enabled/Disabled | | | Enable |
| | GS1-128 Enabled/Disabled | | | Enable |
| | CODE93 Enabled/Disabled | | | Enable |
| | CODE35 Enabled/Disabled | | | Enable |
| | BooklandEAN Enabled/ | Disabled Disable | | |
| | EAN13withAddon Enabled/Disabled | | | Disable |
| | EAN8withAddon Enabled/Disabled | | | Disable |
| | UPCAwithAddon Enabl | ed/Disabled Disable | | |
| | UPCEwithAddon Enabl | ed/Disabled Disable | | |
| **Set Barcodes (300)** | 1D Symbology | Codabar | | N/A |
| | | Code 11 | | N/A |
| | | Code 32 | | N/A |
| | | Code 39 | | N/A |
| | | Code 93 | | N/A |
| | | Code 128 | | N/A |
| | | EAN-8 | | N/A |
| | | EAN-13 | | N/A |
| | | GS1 Composite | | N/A |
| | | I2of5 | | N/A |
| | | Matrix 2of5 | | N/A |
| | | MSI | | N/A |
| | | Plessey | | N/A |
| | | PosiCode | | N/A |
| | | GS1 Omni | | N/A |
| | | GS1 Limited | | N/A |
| | | GS1 Expanded | | N/A |
| | | S2of5 Ind | | N/A |
| | | S2of5 IATA | | N/A |
| | | TCL39 | | N/A |
| | | Telepen | | N/A |
| | | Trioptic | | N/A |
| | | UPCA | | N/A |
| | | UPCE0 | | N/A |
| | | UPCE1 | | N/A |
| | 2D Symbology | AztecCode | | N/A |
| | | AztecRunes | | N/A |
| | | CodablockF | | N/A |
| | | Code16K | | N/A |
| | | Code49 | | N/A |

| | | | |
|---|---|---|---|
| | | DataMatrix | N/A |
| | | MaxiCode | N/A |
| | | MicroPDF | N/A |
| | | PDF417 | N/A |
| | | QRCode | N/A |
| | | HanXin Code | N/A |
| | Postal Codes | Postnet | N/A |
| | | PlanetCode | N/A |
| | | UK Post | N/A |
| | | Canada Post | N/A |
| | | Kix Post | N/A |
| | | Australia Post | N/A |
| | | Japan Post | N/A |
| | | China Post | N/A |
| | | Korea Post | N/A |
| | OCR OCR | Off | N/A |
| | | OCR A | N/A |
| | | OCR B | N/A |
| | | OCR USC | N/A |
| | | OCR MICR | N/A |
| | | OCR SEMI | N/A |
| *Barcode Options (100/200/250/350)* | CodaBar_NoStartStopChars | Enabled/Disabled Disable | |
| | UPCE_as_UPCA Enabled/ | Disabled Disable | |
| | EAN8_as_EAN13 Enabled/Disabled | | Disable |
| | UPCE_as_EAN13 Enabl | ed/Disabled Disable | |
| | ReturnCheckDigit Enabled/Disabled | | Disable |
| | VerifyCheckDigit Enabled/Disabled | | Disable |
| | UPCA_as_EAN13 Enabl | ed/Disabled Disable | |
| | I2of5_VerifyCheckDigit Enabled/Disabled | | Disable |
| | Code39_VerifyCheckDigit | Enabled/Disabled Disable | |
| | I2of5_ReturnCheckDigit Enabled/Disabled | | Disable |
| | Code39_ReturnCheckDigit | Enabled/Disabled Disable | |
| | UPCE_ReturnCheckDigit | Enabled/Disabled Enabled | |
| | UPCA_ReturnCheckDigit | Enabled/Disabled Enabled | |
| | EAN8_ReturnCheckDigit | Enabled/Disabled Enabled | |
| | EAN13_ReturnCheckDigit | Enabled/Disabled Enabled | |
| *Barcode Options (300)* | Codabar Tx | StartStop(Enable/disable) | N/A |
| | | Check Digit(DoNotVerify/VerfyDONotTX/VerifyDoTx) | N/A |
| | | Concatenate(Disable/Enable/Required) | N/A |
| | Code39 Tx | StartStop(Enable/disable) | N/A |

| | | | |
|---|---|---|---|
| | | Check Digit(DoNotVerify/VerfyDONotTX/VerifyDoTx) | N/A |
| | | Append(Enable/Disable) | N/A |
| | | Full ASCII(Enable/Disable) | N/A |
| | I2of5 | Check Digit(DoNotVerify/VerfyDONotTX/VerifyDoTx) | N/A |
| | Code11 | Check Digit(2 digits/1 digit) | N/A |
| | Code128 Concatenate( | Disable/Enable) | N/A |
| | Telepen Output | (Original/AIM) | N/A |
| | UPCA Verif | yChkDgt(Enabled/Disabled) | N/A |
| | | NumberSys(Enabled/Disabled) | N/A |
| | | 2DgtAddenda(Enabled/Disabled) | N/A |
| | | 5DgtAddenda(Enabled/Disabled) | N/A |
| | | Req. Addenda(Enabled/Disabled) | N/A |
| | | Sep. Addenda(Enabled/Disabled) | N/A |
| | | Coupon Code(Enabled/Disabled) | N/A |
| | UPCE Expand | (Enabled/Disabled) | N/A |
| | | Req. Addenda(Enabled/Disabled) | N/A |
| | | Sep. Addenda(Enabled/Disabled) | N/A |
| | | Check Digit(Enabled/Disabled) | N/A |
| | | NumberSys(Enabled/Disabled) | N/A |
| | | 2DgtAddenda(Enabled/Disabled) | N/A |
| | | 5DgtAddenda(Enabled/Disabled) | N/A |
| | EAN-13 Verif | yChkDgt(Enabled/Disabled) | N/A |
| | | 2DgtAddenda(Enabled/Disabled) | N/A |
| | | 5DgtAddenda(Enabled/Disabled) | N/A |
| | | Req. Addenda(Enabled/Disabled) | N/A |
| | | Sep. Addenda(Enabled/Disabled) | N/A |

| | | ISBN Trans.(Enabled/Disabled) | N/A |
|---|---|---|---|
| | EAN-8 Verif | yChkDgt(Enabled/Disabled) | N/A |
| | | 2DgtAddenda(Enabled/Disabled) | N/A |
| | | 5DgtAddenda(Enabled/Disabled) | N/A |
| | | Req. Addenda(Enabled/Disabled) | N/A |
| | | Sep. Addenda(Enabled/Disabled) | N/A |
| | MSI Tx | CheckChar(Enabled/Disabled) | N/A |
| | PosiCode | A and B/A&B LimitedA/A&B LimitedB | N/A |
| | GS1 UPCEAN | Ver.(Enabled/Disabled) | N/A |
| | | GS1 Emulation(No Emulate/GS1 128 Emul/GS1 Emulate) | N/A |
| | PostNet Tx | CheckChar(Enabled/Disabled) | N/A |
| | PlanetCode Tx | CheckChar(Enabled/Disabled) | N/A |
| *Scan Options* | Scan Angle | Narrow/Wide | Wide |
| | Filter Normal/High | | Normal |
| | Time Out | .5 seconds to 10 seconds | 2 second(s) |
| | Min. Barcode Length | 2 to 36 characters | 4 chars |
| | Min. Barcode Length | 2 to 48 characters | N/A |
| | Security Level | 1 to 4 level | 2 level |
| | Image Capture | Enabled/Disabled | N/A |
| | Auto Trigger | Enabled/Disabled Disable | |
| | Reread Delay | Continuous, Short, Medium, Long, Extra Long | Medium |
| | Finger Trigger | Enabled/Disabled Enabled | |
| | Partial Display | Start Position | 1 |
| | | No. of Char(s) | 0 chars |
| | | Action Select | |
| *Data Process* | Wedge / Store | Wedge Only | |
| | | Wedge & Store Always | Default |
| | | Store Only | |
| | | Save if Sent | |
| | | Save if Not Sent | |
| | Data Format | Barcode only | Default |
| | | Packet Data | |
| | Data Editor/Prefix | Delete | Delete |
| | Data Editor/Suffix | Delete | Delete |

| | | | |
|---|---|---|---|
| | Data Editor/AIM ID | None/In Prefix/In Suffix | None |
| | Data Editor/Partial Data | Start Position | 1 |
| | | No. of Char(s) | 0 chars |
| | | Action | Select |
| | Handshake Enable/Disable | sable Disable | |
| | Terminator | None, CR, LF, CR+LF, Tab | CR+LF |
| | Chk Duplicate | Enabled/Disabled | Disable |
| **BT Config** | ConnectDevice ( 200/250/300/350/400 ) | SPP Default | |
| | | HID iOS | |
| | | SPP2.0 | |
| | | HID normal | |
| | ConnectDevice ( 200i/250i/300i/350i/400i) | SPP | |
| | | iPhone Default | |
| | Auto Connect | Enabled/Disabled Disabled | |
| | Auto Power On | Enabled/Disabled Disabled | |
| | Auto Power On/Power On Time | Disable, 1sec to 10second(s) Disabled | |
| | Auto Power Off | Enabled/Disabled | N/A |
| | Auto Power Off/Beep Warning | Enabled/Disabled Enabled | |
| | Auto Power Off/Power Off Time | 1 to 30 minutes | 5 minutes |
| | PowerOff Msg | Enabled/Disabled Disabled | |
| | MAC Address | 12 Characters *Bluetooth* MAC Address | |
| | BT FW Version | Bluetooth Firmware Version | |
| | Wakeup Nulls | Enabled/Disabled Disabled | |
| | BT Toggle | | Enabled |
| | HID AutoLock | Disabled,1,2,3,4,5,10,15 minutes | 1 minutes |
| | HID Keyboard | English,German,French,Italian, Spanish | US |
| | HID Delay/Initial | Disabled, 1,2,3,5,10 secs | Disabled |
| | HID Delay/Inter char | Disabled,10, 20, 30, 50, 100msec | Disabled |
| | HID Ctrl Char | Disabled, Alt+Numpad, ^+Character | Disabled |
| **BT Service** | Power Enabled/Disabled | | Enabled |
| | Pairing | Pairing neighboring Bluetooth devices | |
| | Discovering | Discovering neighboring *Bluetooth* devices | |
| | Connecting to | View Connect to *Bluetooth* device | |
| | HID Sync | | |
| **GPS Config** | GPS Power | Enabled/Disabled | Disabled |
| | Power Mode | Normal/Power Save | Normal |
| | Bypass Data | Enabled/Disabled | Disabled |
| | Acquire Test | | |

| | | | |
|---|---|---|---|
| | Reset GPS | | |
| System Config | Memory Size | 0.5/3.5, 1/3, 2/2, 3/1, 4/0 | 0.5/3.5 |
| | Memory Status | No. of Stored Barcodes | |
| | | Free Memory Available | |
| | Reset Memory | Memory(Empties Data) | |
| | | Application Memory | |
| | | BT Registry(KDC100 Not use) | |
| | Auto Erase | Enabled/Disabled Disable | |
| | Sleep Timeout | Disable, 1sec to 10minute(s) | 5 second(s) |
| | Auto PowerOff | Bluetooth, GPS, Pwr Off Time | Disabled/ Disabled/ 1 hour |
| | Date / Time | YYYY:MM:DD & | |
| | | HH:MM:SS | |
| | Battery | % of Battery Charge Available | |
| | Version | Firmware Version & Serial No. | |
| | Button Lock | Enabled/Disabled | Disable |
| | Beep Sound | Enabled/Disabled | Enable |
| | Beep Volume | Low/High | High |
| | MFi Mode | Enabled/Disabled | Enable |
| | Auto Exit | Enabled/Disabled | Enable |
| | Port Status | Enabled/Disabled | Enable |
| | Display Format | Time & Battery / Type & Time / Type & Battery / Memory Status / GPS Data(KDC250 only)/Barcode Only | Time & Battery |
| | Menu Barcode | Enable/Disable | N/A |
| | Scrolling Enabled/Disabled | | Enable |
| | Brightness | 1 to 15 level(8 level) | 8 level |
| | Factory Default | Restores Default Settings | |

*Table 3 - KDC Menu Options*

## KDC Mode Menu

The KDC Mode Menu has two options – Normal and Application modes.

- Normal: This is the default mode which provides basic barcode scanning.  In Normal mode barcode data can be manipulated directly through the KDC or using KTSync® during the synchronization process.

- Application: This mode allows you to run the user application created by Application Generation Tool described in Chapter 6.

## View Data Menu

This menu option allows you to view and/or delete barcodes stored in the KDC.

## 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.1 – 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, and Transmission of Check Digit. Please refer to Appendix A.2 Options for a detailed explanation of each option.

## Scan Options Menu

- Scan Angle: Allows you to configure the laser beam angle to the barcode.  Wide is $54^{o}$ and Narrow is $27^{o}$. The default is Wide.

- Filter: Allows you to change the Filter mode from Normal to High for poor quality barcodes. The default is Normal.

- 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. It is strongly recommended that you maximize the minimum barcode length setting to prevent possible errors. The default is 4 characters.

- Security Level: Allows you to ensure an accurate barcode reading by setting the number of times

the KDC will read a barcode.  Security Level is set from 1 up to 4.  The higher security level means more reliable readings though some performance degradation is likely. For poor quality barcodes, we recommend increasing the security level.  The default is 2.

● 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.O 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/350i/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.18 ~ C.22 between following special barcodes

Prefix Enter Start

||| ||| ||| ||| ||| |||
83000

Prefix/Suffix Enter Finish

||| ||| ||| ||| ||| |||
83002

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

Delete Prefix

||| ||| ||| ||| ||| |||
83004

Display Prefix

||| ||| ||| ||| ||| |||
83006

- **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

Suffix Enter Start


83001

Prefix/Suffix Enter Finish


83002

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

Delete                    Suffix


83005

Display Suffix


83007

● **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 - KDC200/250/300/350/400

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.

To configure your KDC for Bluetooth functionality, you must use the KDC Menus.   To access the menus, simultaneously press the UP and DOWN scroll buttons on the side of the KDC. Use the DOWN button to scroll to Bluetooth then press the Scan button.

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. IMPORTANT: We strongly recommend NOT changing these settings until you have fully tested the Bluetooth connection between the KDC and the host device.

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

- ● ConnectDevice
    - o  HID normal (KDC200/250/300/350/400)
    - o  HID iOS (KDC200/250/300/350/400)
    - o SPP2.0    (KDC200/250/300/350/400)
    - o SPP    (KDC200/200i/250/250i/300/300i/400/400i)
    - o iPhone    (KDC200i/250i/300i/400i)
- ● Auto Connect - Enabled or Disabled
- ● Auto Power On - Enabled or Disabled
    - o  PWR On Time – Disabled, 1 to 10 seconds
- ● Auto Power Off -  Enabled or Disabled (KDC250 should use option in system menu)
    - o  Beep Warning - Enabled or Disabled
    - o  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
    - o  Define the initial delay between 1sec to 10sec before data transmission in HID mode
- ● HID Inter-character Delay
    - o  Define the inter-character delay between 10msec to 100msec in HID mode
- ● HID Control Character
    - o  Map control characters to either **ALT+Numlock** or **^+Character**

# BT Service - KDC200/250/300/350/400

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

# GPS Config - KDC250 / KDC350

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

- 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.

- MFi Mode(KDC200i,250i,300i,350i,400i): Enables or disables MFi mode. MFi mode supports SPP and iPhone Bluetooth profiles. Non-MFi mode supports SPP, SPP2.0, HID iOS and HID normal.

- 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.

# Pair and connect KDC200i/250i/300i/350i/400i and iOS4.0+ in HID mode

*[NOTE 1] Users have to disable MFi option in System > MFi menu to use HID Bluetooth profiles*

*[NOTE 2] Users have to RESET the iPhone/iPad/iPod touch to change "HID to iPhone mode" or "vice versa" after removing previous KDC connection.*

*[NOTE 3] KDC with Bluetooth Spec2.1+EDR doesn't prompt Pin code entry menu.*

*[Note 4] KDC with Bluetooth Spec. 2.1+EDR stack doesn't require 4 or 6 digits PIN digits entry*

Go to the KDC System > MFi menu.

1. Change MFi option to disabled.
2. Change KDC to pairing Mode
3. The iPhone/iPad/iPod touch will find a new device as "Keyboard".
4. Click "Keyboard" device
5. Please skip following steps if iPhone/iPad/iPod touch doesn't ask for the PIN number.
   A. Click "Keyboard" device- the iPhone/iPad/iPod touch will ask for the PIN number. The iPad will ask for 6 digits and the iPhone/iPod touch will ask for 4 digits
   B. As soon a s the iPhone/iP ad/iPod touch asks for the PIN numbe r, KDC will display the PIN digits selection menu. By default, it is 6 digits.
   C. Press the scan button to select the 6 digit PIN code for the iPad. Press the sid e down butto n and press the scan button to select the 4 digit PIN code for the iPhone/iPod touch.
   D. The iPhone/iPad/iPod touch will display the PIN code that users should enter into the KDC.
   E. By default the KDC di splays pin codes 55 5555(5555). Users can change th e PIN code by using the sid e UP button to increa se numbers, side DOWN button to decrea se numbers, and the SCAN button to confirm and move to next digit
   F. Once the last PIN number is entere d, pre ss and ho ld the SCAN button for a few seco nds. KDC will display "HID connected" and the iPad/iPhone/iPod touc h will di splay "Connected" if paired successfully

# iOS Soft Keyboard toggling using BT Toggle option

1. Users needs to select the option to use this feature in the BT Config > BT Toggle.
2. Press the DOWN button to disconnect the HID connection and bring a soft keyboard.
3. Press the UP button to connect HID
4. The BT toggle is a useful feature if users desire to use both the KDC and soft keyboard.

# 3.4 LED Status

## *KDC100/200/250/300/350*

| LED Color | Status |
|-----------|--------|
| Green | ● Successful Reading<br>● USB is connected and battery is fully charged |
| Orange | ● Low battery<br>● USB is connected and battery is charging |
| Red | ● No reading<br>● Empty battery |

## *KDC400*

| LED Color | Status |
|-----------|--------|
| Green | ● Successful Reading<br>● USB is connected and battery is fully charged<br>● iPhone mode |
| Orange | ● Low battery<br>● USB is connected and battery is charging<br>● HID mode |
| Red | ● No reading<br>● SPP mode |

*Table 4 - Explanation of LEDs*

# 3.5 Empty Battery

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.

# 3.6 Buffer Full

The KDC will display the message ***Buffer Full*** when the size of collected data reaches 60KB (85 version)/160KB(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

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

KDC200 comes with a rechargeable, Lithium-Polymer 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 KDC200. Replacement batteries can be purchased from a KoamTac distributor. Batteries should be disposed of properly.

**Step One** - Place KDC200 face down on a firm surface.  On the back, locate the small black screw in the middle of KDC.  This screw secures the battery cover.



**Step Two** - Press a small Phillips head screwdriver firmly into the screw while simultaneously turning counterclockwise and loosen the screw.  The battery cover will pop open.  Remove the cover, keeping the screw intact.  Store cover with screw in a safe place for later.

**Step Three** - *Gently* lift the battery to locate a wire connector underneath the battery.  The wire connector is attached to the red and black wires on the battery.  It is also attached to a connector on KDC. Remove the battery using a flat head screwdriver to disengage the connectors, being careful not to damage the connector on KDC.



**Step Four** – Use a small flat head screwdriver to reattach the new battery. Connect the white connector attached to the red and black wires on the replacement battery to the connector on the KDC. Gently press the battery down, fitting it inside the KDC. Replace the battery cover. With the Phillips head screwdriver securely tighten the battery cover screw.

**Step Five** – The replacement battery must be charged before KDC can be used.

# 4. BLUETOOTH - KDC200/250/300/350/400

The KDC200/250/300/350/400 support HID (Human Interface Device) normal, HID iOS, SPP (Serial Port Profile) and SPP2.0 profiles. KDC200i/250i/300i/350i/400i support SPP and iPhone(Made for iPhone) profiles. They are compatible with the following Bluetooth stacks.

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

KDC200/250/300/350 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, SPP(2.1), HID normal, HID iOS profiles to communicate with the host device. Additional iPhone (Made for iPhone) option is available for KDC200i/KDC250i/300i/350i/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.

**[NOTE] User should unpair the KDC first from the Bluetooth host to change the Connect Device setting on the scanner to other Bluetooth 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 ho st device a nd KDC have b een fully tested, it is stron gly recommended that thi s 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 PWR ON Time

The PWR On Time option works in conjunction with the Auto Power On option. Default value is Disabled. If KDC Bluetooth power is  off, us er can t urn on Bluet ooth power by press ing th e sc an button for PWR On Time option value.

# 4.5 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 aut omatically when the KDC is  NOT CONNECTED to the ho st for the time durati on 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.

# 4.6 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"
- "KDC200/250/300/350/400 is DISCONNECTED from HOST"
- "Bluetooth power is ON"

# 4.7 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 setting for this option is  from one (1) minute to 30 minutes. The default is five (5) minutes.

# 4.8 PowerOFF Msg

KDC sends Bluetooth power off message "BTOFF" to host if PowerOFF message option is enabled.

# 4.9 MAC Address

User can verify KDC Bluetooth MAC Address.

# 4.10 FW Version

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

# 4.11 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.

# 4.12 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.

# 4.13 HID Keyboard

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

# 4.14 HID Initial and Inter-Character Delay

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
  - o Define the initial delay between 1sec to 10sec before data transmission in HID mode
- HID Inter-character Delay

o   Define the inter-character delay between 10msec to 100msec in HID mode

# 4.15 Control character transmission in HID mode

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

- ● Disable  d ➔ Transmit the original control character

- ● Alt+Num  pad ➔ Transmit Alt+ ASCII value from Numpad.

- ● ^+Ch  aracter ➔ Control characters would be substituted as following table.

| Control Char | Transmit Chars | Control Char | Transmit Chars | Control Char | Transmit Chars | Control Char | Transmit Chars |
|---|---|---|---|---|---|---|---|
| 0x01 ^A |  | 0x0B | ^K | 0x14 | ^T | 0x1D | ^] |
| 0x02 ^B |  | 0x0C | ^L | 0x15 | ^U | 0x1E | ^^ |
| 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 | ^\ |  |  |

# 4.16 Function key transmission in HID mode

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

# 4.17 Disconnect/Reconnect/BT(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 |
| HID iOS | Reconnect | Soft Keyboard Toggle if pressing less than 3sec, 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*

## 4.18 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.

## 4.19 Pairing

Before you are able to use Bluetooth, the KDC must be paired with the host device. This paring 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. Select Pairing from the Bluetooth menu. The message "**Pairing started…"** will displayed.
2. When prompted by the host device, enter the Security PIN "0000".
3. The **"Pairing success"** message will display when the Bluetooth connection is successfully established.   The connection must be established before the pairing timeout which is 60 seconds.

- If **"Pairing failed..."** message displays, the Bluetooth connection with the host device failed.  If the message "**Connected"** displays, a Bluetooth connection was established.

- It is possible for the message "**Pairing failed..."** to display on the KDC while the host device displays **"Connected"** message.   If this occurs, a Bluetooth connection is established.

## 4.20 Discovering

KDC200/250/300/350/400 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.

# 4.21 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 con nect to the master *Bluetooth* device.

# 4.22 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®, 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® was installed on your PC during the initial installation process. Before data can be uploaded to any host device, KTSync® must be launched on the host and configured to recognize the KDC. The following screen displays when KTSync® is launched.
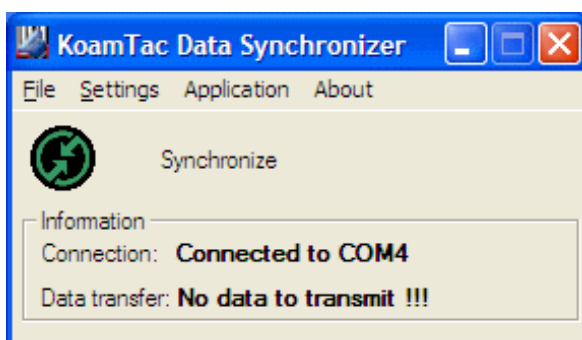
**KDC100/200/250/300/350**                    **KDC400**
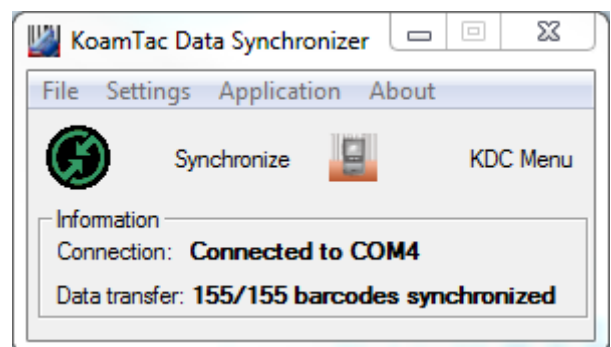


*Figure 5 - KTSync® Synchronizer Menu*

**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® 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 KDC200/250/300/350/400.

- Exit: This option ends the KTSync program. You must re-run KTSync before you can synchronize data on the KDC.
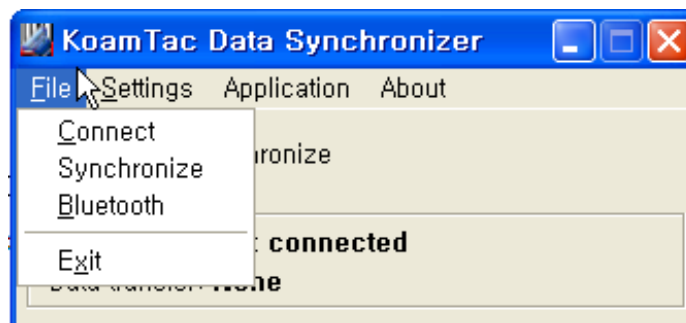


*Figure 6 – File Menu*

**Settings Menu**

- Synchronization: Select Synchronize options.

- Barcode & KDC: Select Barcode and KDC options.

- Others: Select Auto Connection and/or Synchronization Confirmation options.
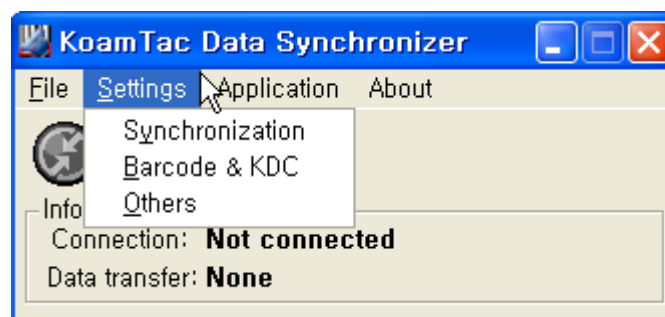


*Figure 7 – Setting Menu*

**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.
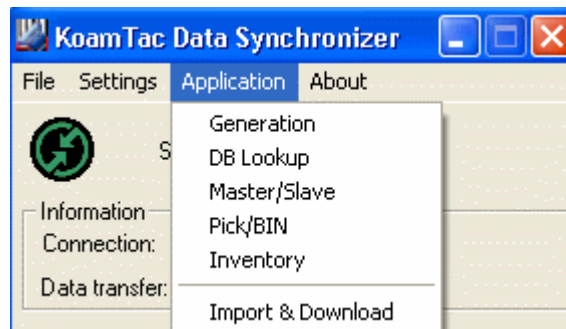


*Figure 8 – Application Menu*

**About Menu -** KTSync® - Version Information



*Figure 9 – About Menu*

# 5.2 File Menu

## *Connect to KDC*

The KDC co nnects to a  COM po rt automatica lly when con nected to your PC's USB port.   **You can manually assign the KDC COM port using KTSync® Connection submenu under File menu if needed.**
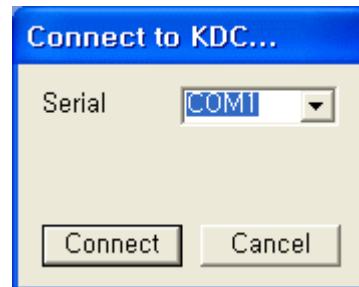


*Figure 10 - COM Port Selection for KDC*

- The COM port assignment is found in the Windows Device Manager.
- KTSync® will not connect to the KDC if it is in KDC Menus. You must EXIT from the KDC Menus.
- 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.
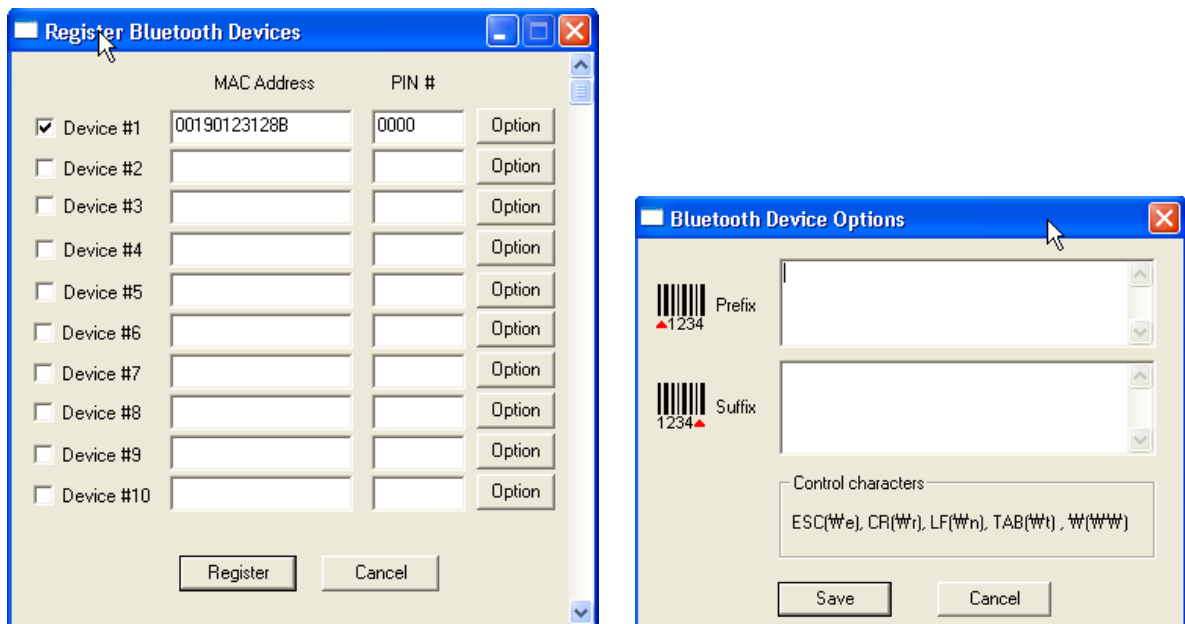


*Figure 11 - Bluetooth Device Registry*

# 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+.
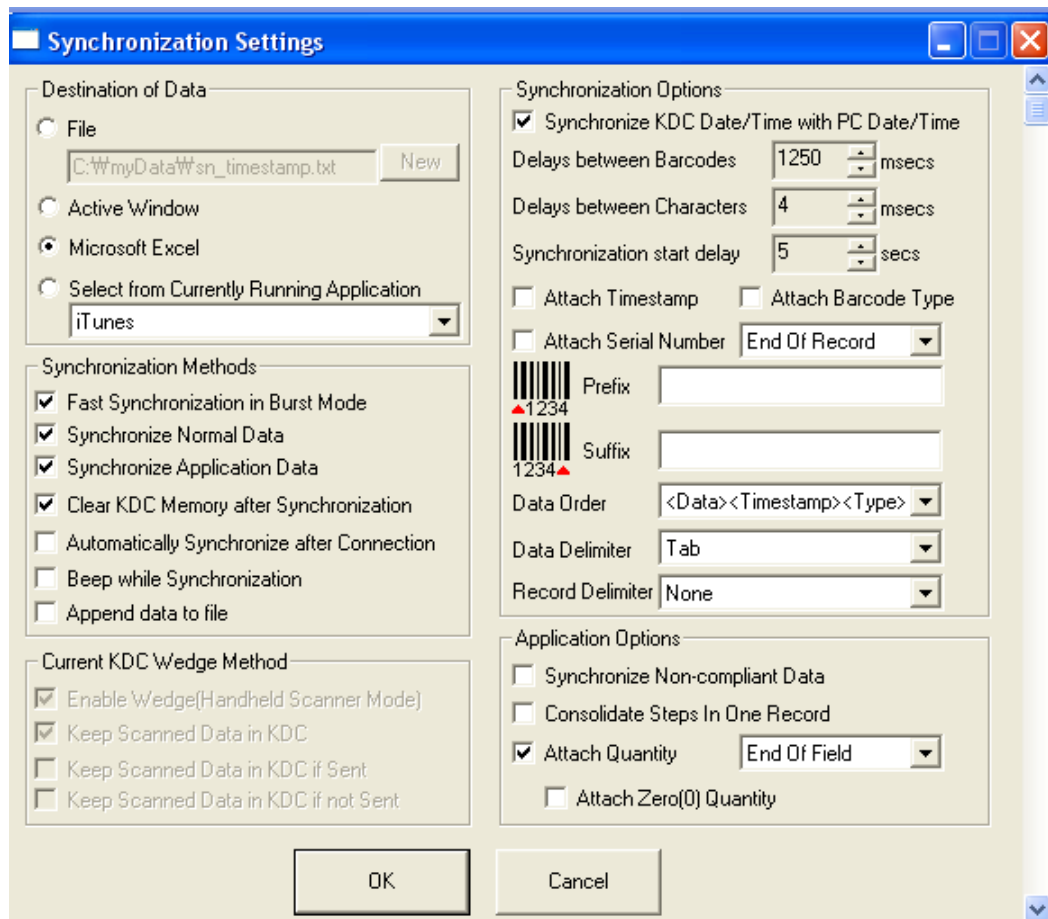


*Figure 12 - KTSync® Synchronization Settings*

## *Destination of Data*

When barco de data is u ploaded to the ho st device, you mu st assig n a d estination 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 exiting 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.**
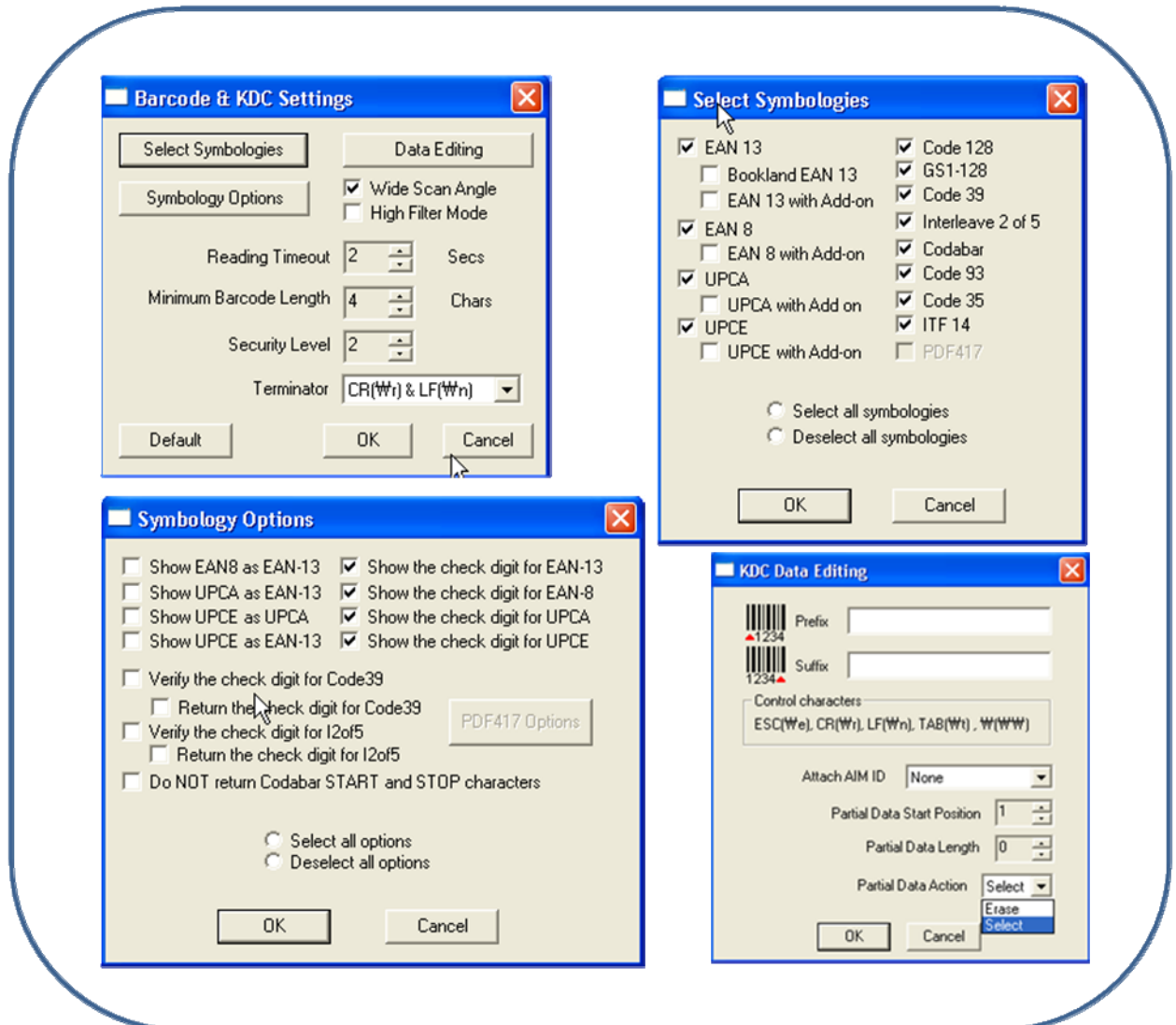


*Figure 13 - Barcode & KDC Settings, Symbologies, Data Editing and Scan Options*

## *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.
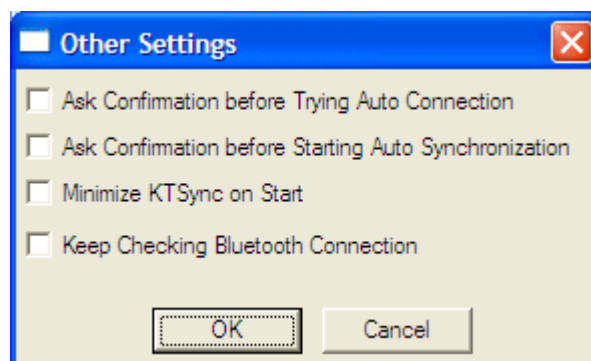


*Figure 14 - KTSync® Confirmation Settings*

## 5.6 KDC Menu (KDC400)

KDC Menu allows users to configure KDC400 settings.
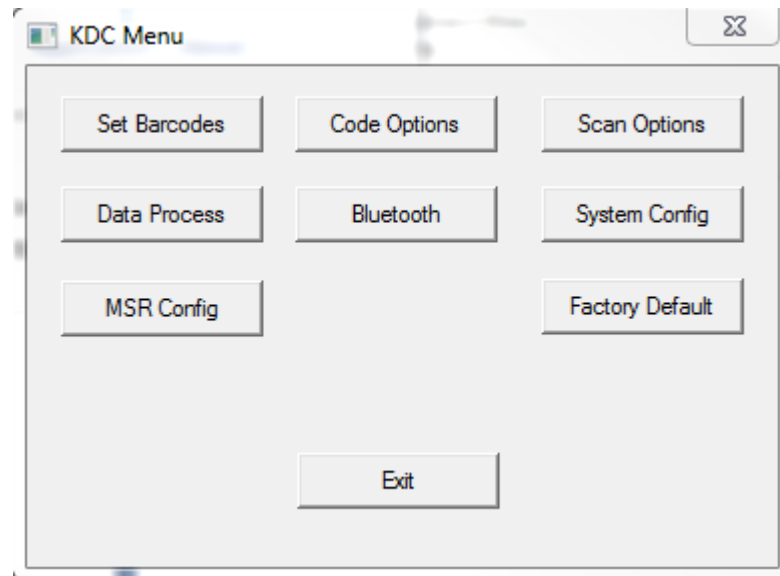
# 5.7 Mobile pKTSync

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.**
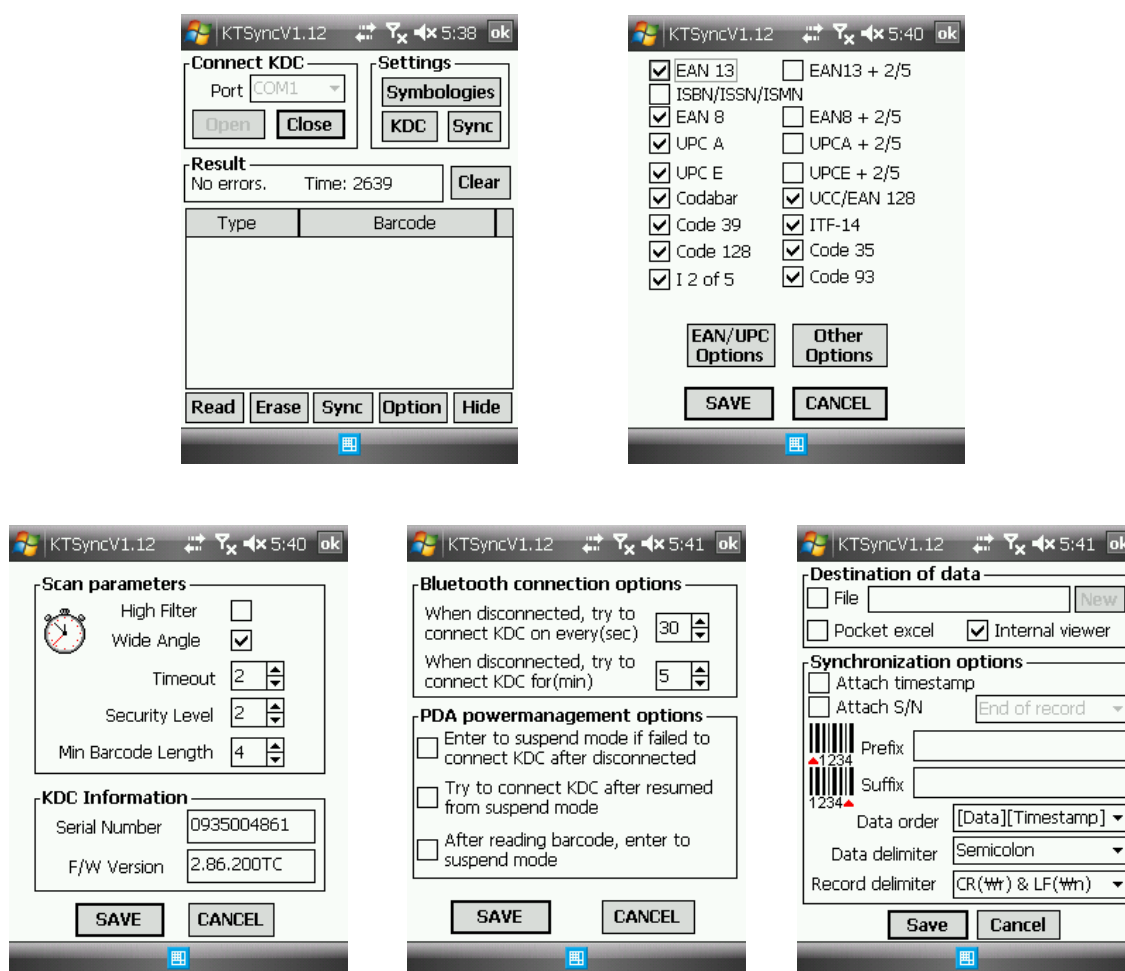


*Figure 15 – Mobile pKTSync*

# 5.8 Android aKTSync

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 KDC200/200i/300/300i/350/350i from Android and pairing two devices.

   - KDC200/200i/300/300i/350/350i 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 KTSync*

1. Download and install aKTSync from the Android Market.

   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 setting
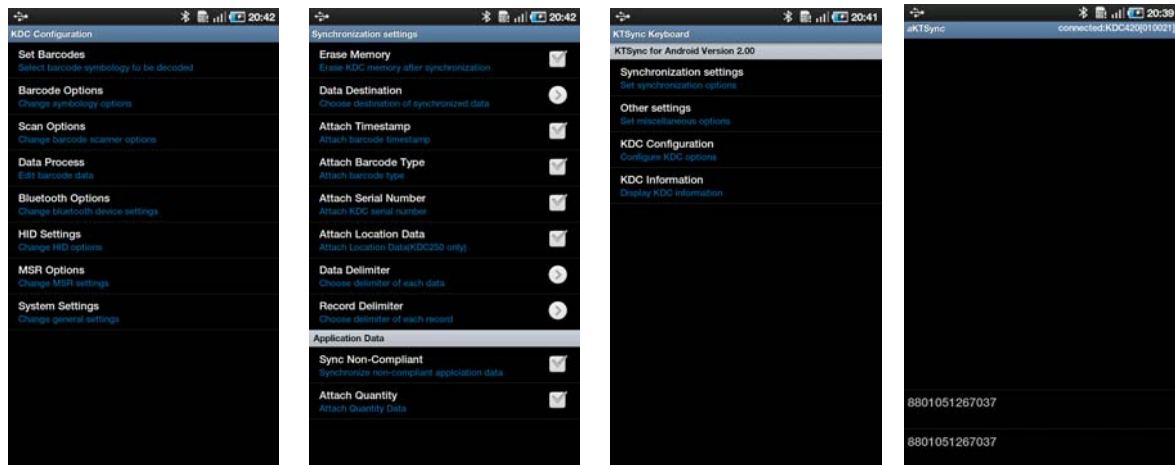


*Figure 16 – Android aKTSync*

7. Keyboard    Wedge

    A.   Launch "Settings" on the Android device

    B.   Select "Language and Keyboard (or Input method)"

    C.   Select "KTSync Keyboard"

    D.   Launch the application and touch the input box to give focus to it

    E.   Barcode would be wedged to the input box upon scanning a barcode

# 5.9 iPad/iPhone/iPod touch KTSync

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

## KDC200i/250i/300i/350i/400i and iPhone/iPad/iPod touch connection instructions

1. The KDC200i/250i/300i/350i/400i supports "SPP" and "iPhone" Bluetooth profiles.
2. The iPhone/iPad/iPod touch should use "iPhone" Bluetooth profiles. "iPhone" is the default profile.
3. Download the KTSync program from the App Store.
4. Enable the iPhone/iPad/iPod touch Bluetooth power from the Setting > General > Bluetooth menu

*[NOTE 1] Users have to disable MFi option in System > MFi menu to use HID Bluetooth profiles*

*[NOTE 2] Users have to RESET the iPhone/iPad/iPod touch to change "HID to iPhone mode" or "vice versa" after removing previous KDC connection.*

*[NOTE 3] KDC with Bluetooth Spec2.1+EDR doesn't prompt Pin code entry menu.*

## KDC200i/250i/300i/350i/400i connection using iPhone mode

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 "Bluetooth" menu using KDC Down button
4. Press the front middle scan button
5. Scroll down to "Discovering" and press the front middle scan button
   A. "Discovering Started …" message will be displayed on KDC screen
   B. Discovering    will take about 30 seconds.
6. 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/i   Pod touch will ask for the PIN number.
   E. Please enter "0000" and hit "connect" icon
   F. "iPhone    Connected" message will be displayed

7. Launch KTSync and configure Settings

## iKTSync Settings

iKTSync provides following Settings menu.

- Synchronization - User ca n configure Synchronization option s such as d estination of dat a, data formation and delimiters.
- Other settings - Use rs can configure KDC250 G PS module, disconne ction options and soft trigger button.



*Figure 17 – iPad/iPhone/iPod touch KTSync*

## How to connect and reconnect iPhone mode using UP keys

1. Users needs to select the option to use this feature in the BT Config > BT Toggle
2. Press the UP button to connect or reconnect to the iPhone/iPad/iPod touch

# 5.10 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
   - E. The Blackberry will display "Pairing with KDC"…"complete."
   - F. Close the Blackberry Bluetooth manager
5. Go to Downloads folder and execute KTSync
6. User can configure KDC options in KDC settings and Symbologies Settings menu
7. 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.
8. 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.

KDC Settings

Select Laser Angle          Wide ▾

Set Scan Timeout          2 seconds ▾

Set Security Level          2 ▾

Set Minimum Barcode Length          2 ▾

Symbologies Settings

Enable/Disable Symbols

☑ EAN13
☑ EAN8
☑ UPCA
☑ UPCE
☑ Code39
☑ ITF14
☑ Code128
☑ Interleave 2 of 5
☑ Codabar
☑ GS1-128
☑ Code93

Synchronization Settings

Select Destination    Email Attachment ▾

Attach Barcode Type          No ▾

Attach Timestamp          No ▾

Attach Serial Number    Do not attach ▾

Select Data Delimiter          Tab ▾

Select Record Delimiter    CR&LF ▾

Email Address: info@koamtac.com
Email Subject: KDC BB Ktsync test email

Synchronization Settings

Attach Barcode Type          No ▾

Attach Timestamp          No ▾

Attach Serial Number    Do not attach ▾

Select Data Delimiter          Tab ▾

Select Record Delimiter    CR&LF ▾

Email Address: info@koamtac.com
Email Subject: KDC BB Ktsync test email
Email Body Message: Hi...

Figure 18 – Blackberry bKTSync

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# 5.11 KTSync for Mac OS X

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 supports both Bluetooth SPP profile and USB connection. User should pair KDC with Mac before using the KTSync program via Bluetooth connection.*

*[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 and later versions.*

KTSync Mac OS X version supports the following features:

  - ✓ Keyboard wedge function to a file, internal viewer, active window and user application.
  - ✓ Synchronization to a file, internal viewer, active window and user application.
  - ✓ Automatic connection and disconnection on USB port.

User will see the following initial KTSync screen upon launching the program. KTSync will connect automatically if KDC is plugged on USB port or KDC is paired.
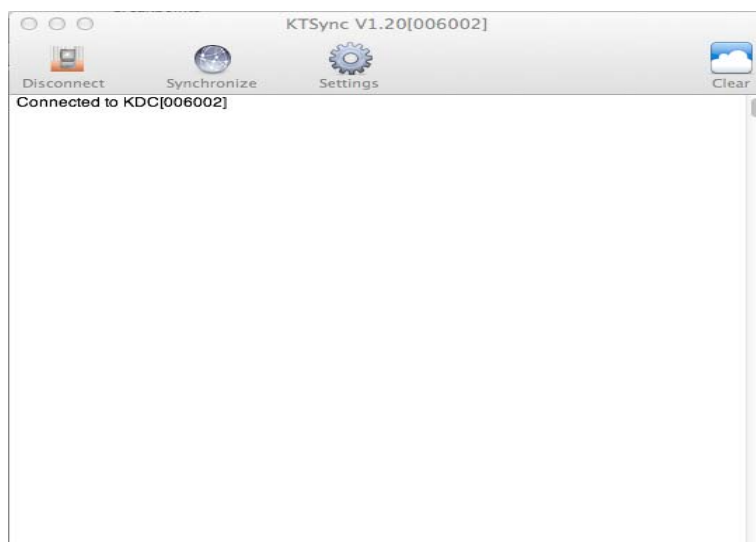


## Connect Button



User can connect the Mac with the KDC that is paired or plugged into the USB port 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.
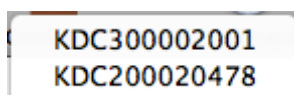
# *Disconnect Button*



KTSync changes Connect button to Disconnect button once the KDC is connected. User can disconnect the KDC manually by selecting connected KDC on the following screen.
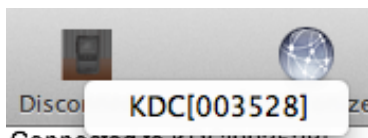


# *Synchronize Button*



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 4 selectable
    destinations: File, Internal viewer, Active window and User application.

# *Settings Button*



User can configure synchronization options on the following screen by pressing the Settings button.
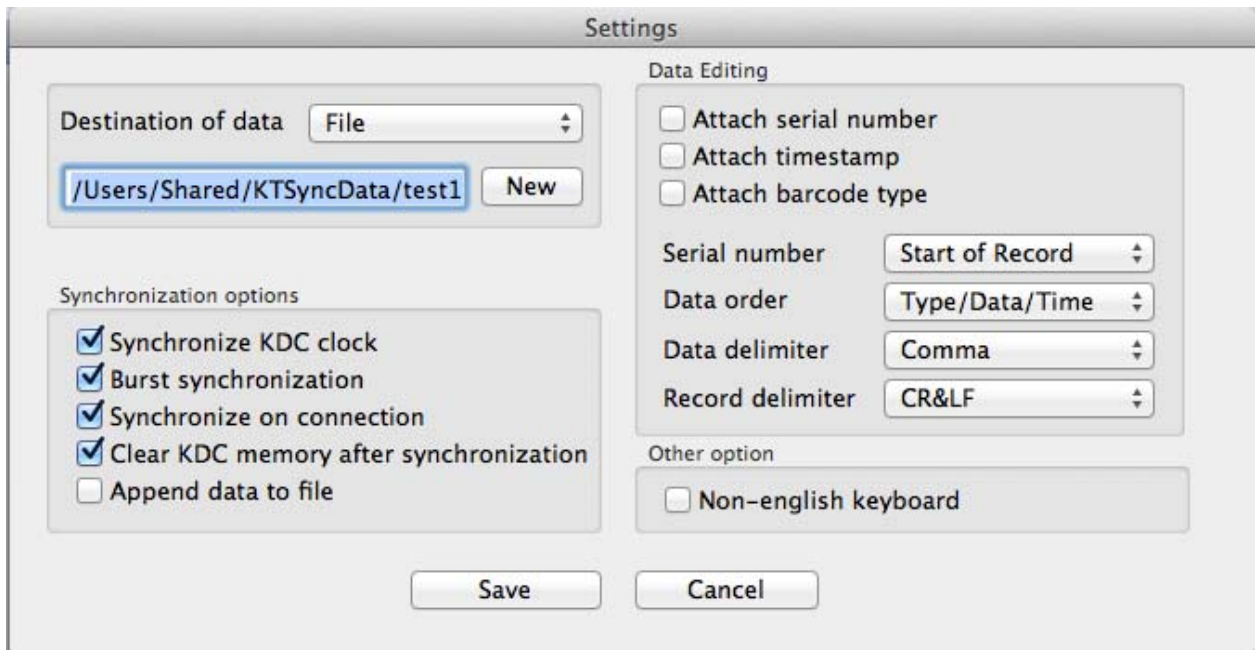
- Destination of data

  ➢ The KTSync program wedges or downloads barcode data to one of the following four destinations:
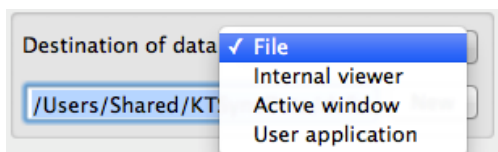
  

  ✓ File: The KTSync makes file name based on 3.11 if file name is specified as a "sn_timestamp.txt". The default directory is /Users/Shared/KTSyncData directory. User can define other directory or other filename by clicking "New" button. The maximum file path length is 128 characters.

  ✓ Internal viewer: The KTSync displays barcode data in KTSync internal text viewer.

  ✓ 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 the KDC's date and time with Mac PC date and time when the KDC is connected to Mac if this option is enabled.

- Burst synchronization

KTSync will synchronize barcode data from KDC in the burst mode if this option is enabled. Otherwise, KTSync will synchronize barcode data one by one. This option is enabled by default and can't be disabled.

● Synchronization on connection

If this option is enabled, KTSync will automatically synchronize barcode data from the KDC when the KDC is connected.

● Clear KDC memory after synchronization

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

● Append data to file

KTSync appends synchronized data to existing file specified on destination. If file doesn't exist then KTSync creates a new file.

● Attach serial number

The KTSync would add a KDC serial number to barcode data if this option is enabled. This option is enabled by default and can't be disabled.

● Attach time stamp

The KTSync would add timestamp to barcode data if this option is enabled. This option is enabled by default and can't be disabled.

● Attached barcode type

The KTSync would add barcode type to barcode data if this option is enabled. This option is enabled by default and can't be disabled.

● Serial number

When"Attach serial number" is enabled, this option determines when to attach serial number. "Start of record" means to attach at the front of record and "End of record" means to attach to the end of record.

● Data order

This option specifies the order of data (Barcode Type, Barcode Data and Timestamp) in the record.

● Data delimiter

This option is used to select a character to be added between barcode data, serial number and timestamp and/or barcode type. User can select one of the following: "None", "Tab", "Space", 'Comma" and "Semicolon" as the data delimiter. The "Comma" is selected by default and can't be changed.

● Record delimiter

This option is used to select a character to be added at the end of the barcode record. User can selectone of "None", "CR", "LF", TAB", and "CR&LF" as the record delimiter.The "CR&LF" is selected by default and can't be changed.

● Non-English keyboard

This option is used when the barcode data has non-English characters and a non-English keyboard.

## Clear Button



User may press this button to clear the KTSync internal viewer.

# 6. APPLICATION GENERATION

**[NOTE] KDC FW2.85.200.x doesn't support the Application Generation feature. Users should upgrade FW2.85.200.x to FW2.86.200.x to use Application Generation feature**

When you select Application menu from the KTSync, you can choose from the following five Applications – Generation, DB Lookup, Master/Slave, Pick/BIN, and Inventory. Users can also download saved programs using Import & Download option.
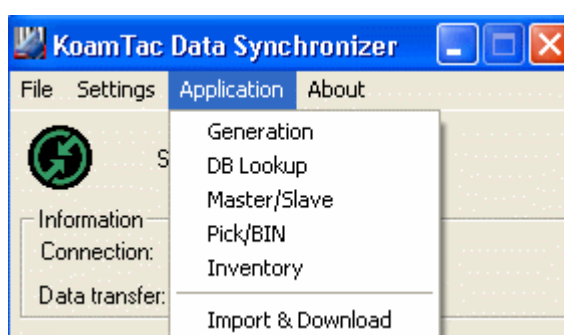


*Figure 19 – Application Menu*

When the Application tool is selected, the KDC will beep once to acknowledge a connection between the KDC and the Application tool. KTSync would popup the following warning window if downloaded application in KDC doesn't match with KTSync application tool.
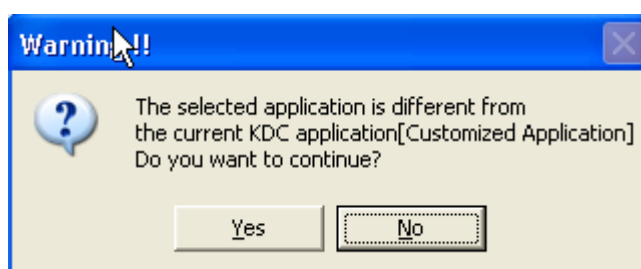


*Figure 20 – Application Warning Window*

[Note] KDC would wedge barcode data to the host in application mode if "wedge and store always" option in data process menu is selected and KDC firmware version is higher than 2.86.xxx.G.

# 6.1 Application Generation

KDC Application Generation tool is a robust feature that allows you to create custom applications for collecting and managing barcode data. To create a custom application, select the Generation submenu from the Application menu in KTSync®.



*Figure 21 – Application Generation Menu*

## Generate Application

**Generate step** 1 - To generate a custom application, click on the Generate Step 1 box which enables you to define the user prompts and data collection settings for Step 1 of your custom application. Below is a description of each field.  These prompts are the same when selecting Generate step 2 and Generate step 3.  **NOTE:  Your custom application can include only Step 1**.

- **First line**

   Enter up to 13 characters which will display on the first line of the KDC


- **Second line**

   Enter up to 13 characters which will display on the second line of the KDC

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- **Starting quantity**

    Enter a predefined start quantity for each scanned barcode.  The start quantity can be defined from 1 to 128 and is modifiable using up or down side key.


- **Waiting to scan**

    Enter the number of seconds the KDC pauses before the user prompts display.  During this timeout period, the user can modify the quantity.  If this field is set to zero, the quantity field cannot be adjusted.  This field can be defined from "-1" to "30" seconds.  "-1" second enables infinite waiting of user quantity input.


- **Enable data filter**

    Click on this box to enable the data filtering option. Data filtering allows you to predefine different aspects of the barcode data you are collecting.


## Data Filter Settings

When you select Enable data filtering, you must click on the Settings box to select the Data filter setting. The option for the data filter settings are the same for Step1, Step 2, and Step 3.



*Figure 22 – Data Filter Settings*

- **Barcode Type**

  This field allows you to select the type of barcodes the KDC will collect. When you click on the box, Select Symbols is enabled. A listing of the symbologies supported by the KDC displays. To select a barcode symbology, click on the box associated with the symbology.

- **Minimum Data Length**

  This field allows you to define the minimum length of the scanned barcode. The length can be between 2 and 36 characters. If a user scans a barcode whose length is less than the defined length, the barcode data is not collected.

  [Note] The default KDC minimum barcode length defined in scan option is 4. Therefore, users should change KDC minimum barcode length to 2 or 3 to define minimum data length to 2 or 3.

- **Maximum Data Length**

  This field allows you to define the maximum length of a scanned barcode. The defined length can be between 2 and 256 characters. If a user scans a barcode whose length is greater than the defined length, the barcode data is not collected.

  [Note] The default KDC minimum barcode length defined in scan option is 4. Therefore, users should change KDC minimum barcode length to 2 or 3 to define maximum data length to 2 or 3.

- **Barcode Collation**

  This option enables you to define a data string that the KDC will use to compare scanned barcodes.
  - Starting Position – This is the start position of the scanned barcode data to be compared with the defined data string.
  - Data String – This is the defined value to be compared with scanned barcode data. This value can be up to 32 characters

- **Collect Partial Data**

  This option allows you to define partial barcode data to be collected when a barcode is scanned. Only the partial data will be stored in the KDC.
  - Start position – This is the starting position that the KDC will use when collecting scanned barcode data.
  - Data Length – This is the length of partial data to be stored by the KDC

- **Check for Duplicated Data**

  This option allows you to prevent collecting duplicated data.
  - Previous Scanned Data – This option allows you to compare the scanned barcode with the previously scanned barcode and treat it as non-compliant data if you scanned the same barcode twice.

o   All Stored Data – This option allows you to compare the scanned barcode with stored barcode data and treat it as non-compliant data if the same barcode already scanned and stored.

- **Don't Save Non-Compliant Data**
  This field tells the KDC how to manage non-compliant data based on the defined data filtering fields. If this field is enabled, non-compliant data is NOT stored in the KDC.  If this option is not enabled, non-compliant data is stored.

### *Generate step 2*

To include another step in your data collection process, click the box, Generate step 2.  This step has the same options as Step 1.  In this step, you have the option of repeating step 2 by clicking the box, Repeat Step.  NOTE:  This field is disabled when your application has three steps.

### *Generate step 3*

To include a third step, click the box, Generate step 3. This step has the same options as step 1 and 2. However, in this step you have the option to repeat steps 2 or 3.

## *Application Download and Execution*

Prior to running your application, it must be downloaded to KDC.
- Click "Download" icon from Application Generation Window.
- Change KDC from Normal mode to Application mode.
  - Press two side buttons simultaneously to enter menu mode
  - Select KDC mode and enter scan button
  - Change to Application mode
  - Save and exit from menu mode
- KDC will run in normal mode if you don't change to Application mode after downloading the application.

# 6.2 Predefined Applications

KTSync provides four Predefined Applications – Master/Slave, Pick/Bin, DB Lookup and Inventory.

## *Master/Slave*

Master/Slave predefined application allows you to define a **master** barcode for comparison with one or more **slave** barcodes.  The predefined application can be run once or continuously and within either setting, you can define a substring for comparison of master and slave barcodes.

- **Master/Slave Onetime**
  Define one **master** barcode and compare it with one **slave** barcode.

- **Master/Slave Continuous**
  Define one **master** barcode and compare it with multiple **slave** barcodes.

- **Collation Options**
  Works in either Onetime or Continuous Mode to compare a substring within the master and slave barcodes.

  - ✓ Master start position - Select the numeric position of start substring character in Pick barcode, 1 to 255
  - ✓ Slave start position - Select the numeric position of start substring character in Pick barcode, 1 to 255
  - ✓ Comparing Barcode Length - Number of characters to be compared, 0 to 255. 0 means all characters.
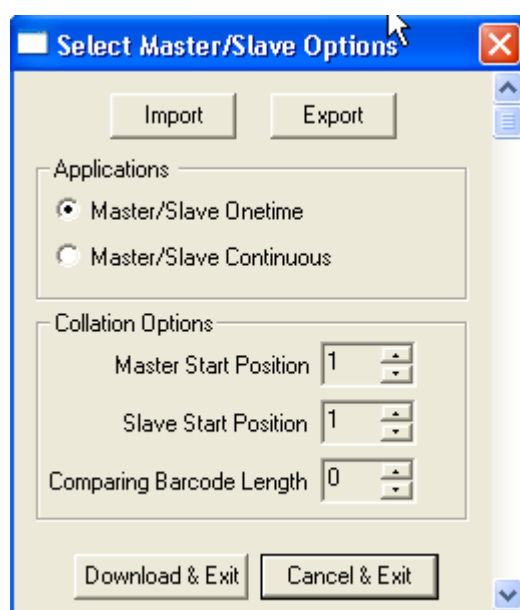


*Figure 23 – Master/Slave Application Settings*

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```
┌─────────────┐
│  KDC Mode   │◄──────────┐
└──────┬──────┘           │
       │          ┌───────────────────┐
       │          │    Collation:     │
       └────────► │ Define substring to│
                  │   be compared.    │
                  │ Default is entire │
                  │     barcode       │
                  └───────────────────┘

              ◇ Select MS Mode:
              (Onetime, Continuous)
```
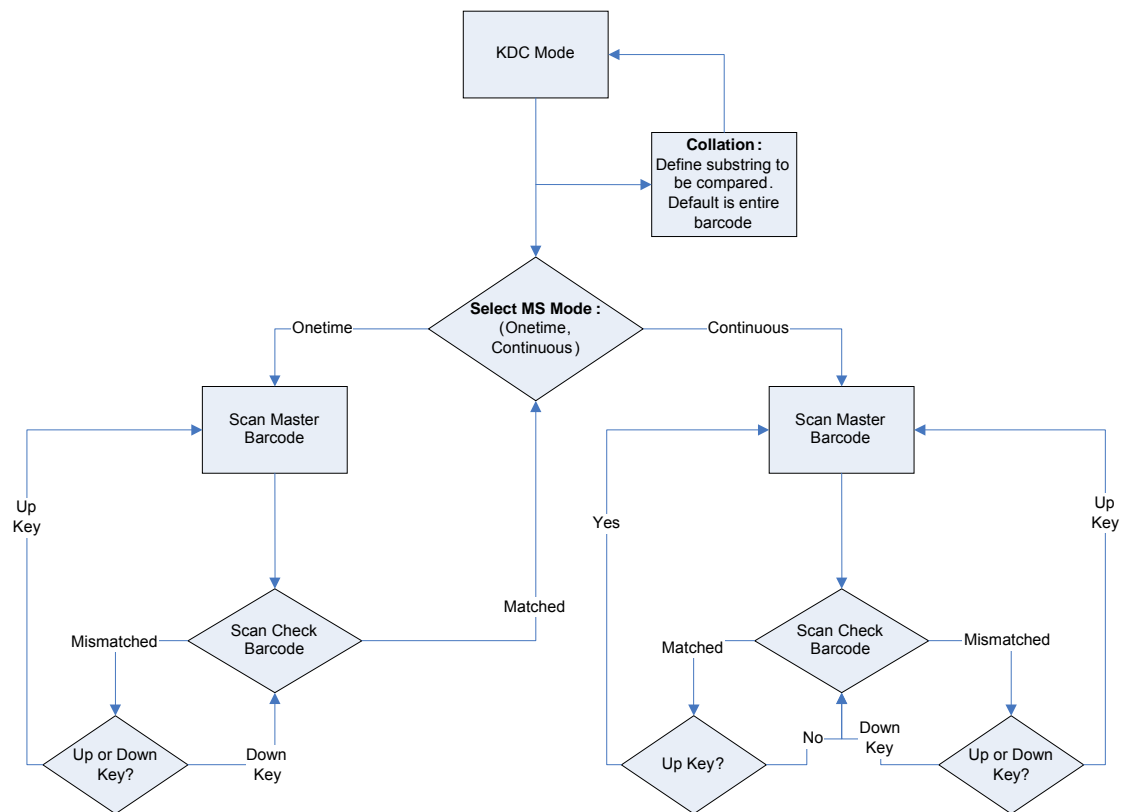
*Figure 24 – Master/Slave Application Flow Chart*

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## Pick/Bin

The Pick/Bin predefined application is a special version of the Master/Slave predefined application. The Pick/Bin application allows you to define Pick ID and the barcode symbology for comparison with a defined Bin.

- **Number of ID and Symbology**

  Define Pick ID characters from 1 to 32 and the barcode symbology.

- **Pick Start Position and Symbology**

  Select numeric position of start substring character in Pick barcode from 1 to 255 and the barcode symbology.

- **Bin Start Position and Symbology**

  Select the numeric position of start substring character in Bin barcode from 1 to 255 and the barcode symbology.

- **Comparing Barcode Length**

  Select the number of characters to be compared from 0 to 255. 0 means all characters.
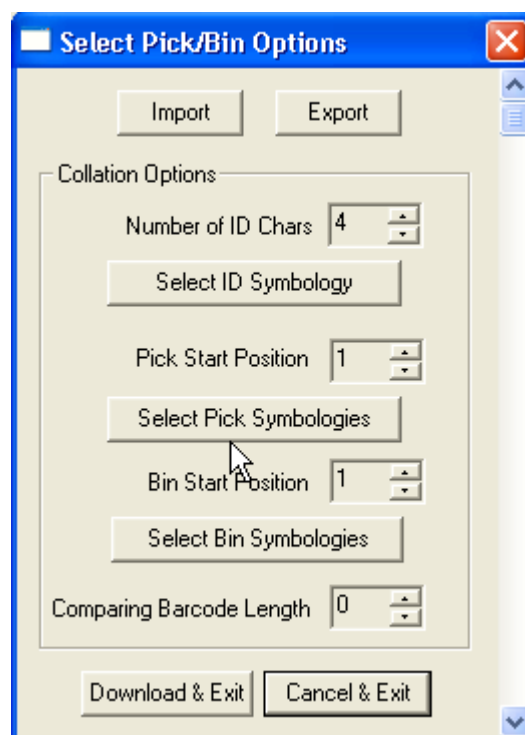


*Figure 25 – Pick/BIN Application Menu*
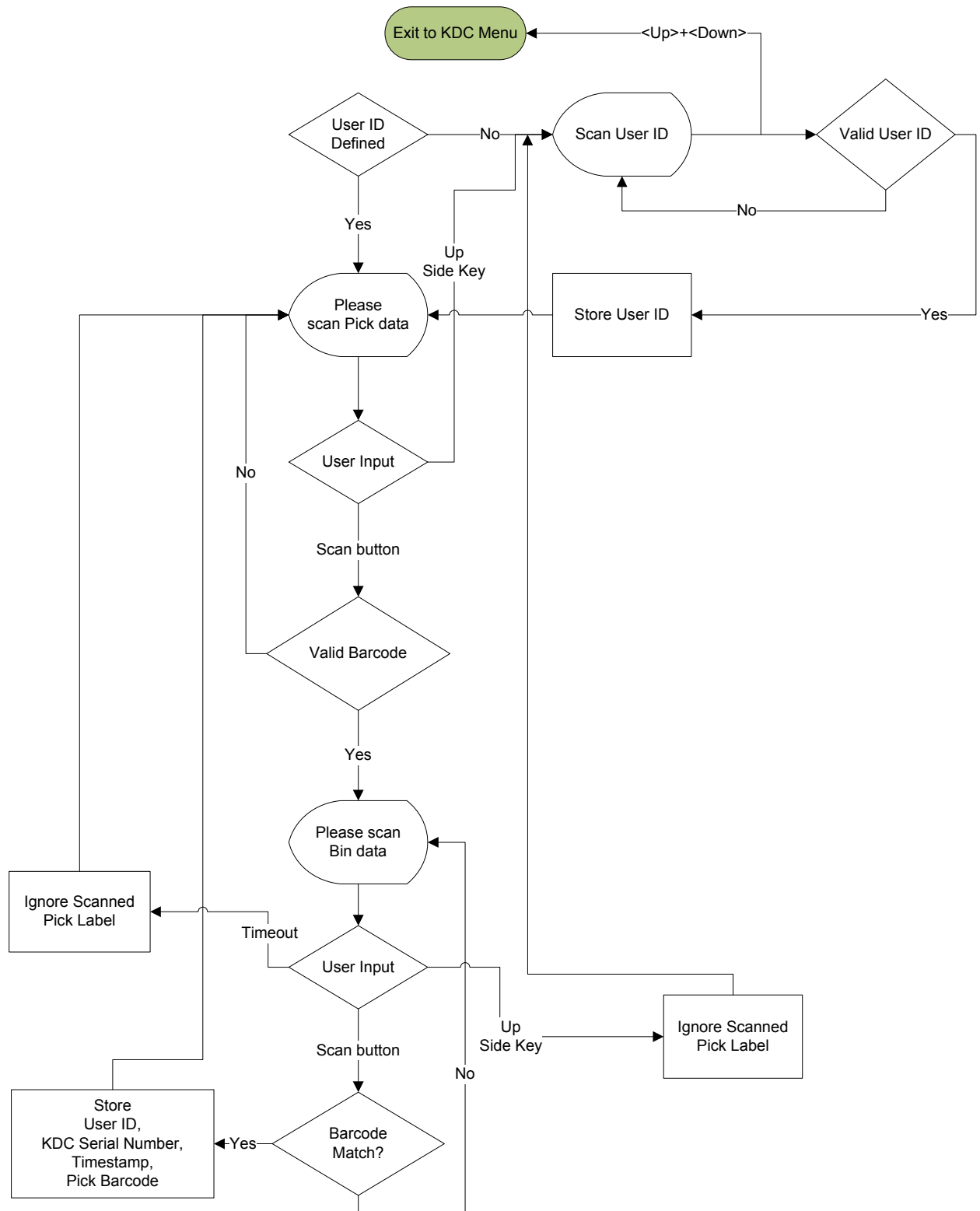
*Figure 26 – Pick/BIN  Application Flow Chart*

# DB Lookup Application

The DB Lookup application allows you to download a database to the KDC which can then be utilized for advanced AUTO-ID applications like displaying additional data after scanning a barcode.  For example, using our DB Lookup application, you could download a product database including information such as description, price, and stock quantity.  With the advanced data functionality built-in to the KDC, you could easily display product price, description, and stock level after the product's barcode is scanned.

### Functionality of DB Lookup Application

- The database size cannot exceed 800 records.
- The maximum record size is 128 bytes.
- Each record can have up to 4 fields including the barcode which is the primary key.
- The maximum field size is 39 characters.
- Quantities can be entered by pressing the UP or DOWN scroll buttons after DB fields displayed.
- Quantity can be 1 to 128.
- User can create a database using Microsoft Excel.
  - Excel file must be saved as .txt.
  - Records should be separated by CR/LF
  - Fields should be separated by TAB.
  - Database should end with CR/LF.
  - Last 4 bytes of database should be CR/LF/CR/LF.

### DB Lookup Fields and Settings

- **Download DB to KDC -** Downloads user created database to KDC.

- **Starting Quantity -** Enter predefined start quantity for each scanned barcode.  The start quantity can be defined from 1 to 128 and is modifiable using up or down scroll buttons.

- **Barcode Field -** Select the position of barcode field in database from 1 to 4.

- **Stored Barcode Start Position -** Select the numeric position of start substring character of barcode in database from 1 to 39.

- **Scanned Barcode Start Position -** Select the numeric position of start substring character of scanned barcode from 1 to 39.

- **Comparing Barcode Length -** Number of characters to be compared from 0 to 255 where 0 is all characters.

- **Display on KDC -** Define database fields to be displayed on KDC.  KDC can display one to three fields. KDC will display one field in two or three lines if same field is specified in line entering option.

*Figure 27 – DB Lookup Application Menu*

# *Inventory Application*

The Inventory application allows you to count inventories by scanning inventory barcodes. This application will increase inventory item count if the same item is scanned. Users can also download an inventory database to the KDC. KDC will display inventory description after scanning a barcode if inventory DB is downloaded.

### *Functionality of Inventory Application*

- The inventory cannot exceed 800 items.
- The maximum record size is 128 bytes.
- Each record can have up to 4 fields including the barcode which is the primary key.
- The maximum field size is 39 characters.
- Quantities 1 to 32786 can be entered by pressing the UP or DOWN scroll buttons after inventory is scanned.
- Starting Quantity can be 1 to 128.
- Min/Max. Data Length is between 2 to 256 (KDC100/200) or 4 to 256 (KDC300)
- Barcode Collation Start Position is between 1 to 256
- The length of Collation Data String is between 1 to 30
- Collect Partial Data Start Position is between 1 to 256
- Collect Partial Data Length is between 1 to 256
- Users can create an inventory database using Microsoft Excel.
    - o Excel file must be saved as .txt.
    - o Click User Inventory DB option to display inventory description
    - o Click Do not add non-existing item into DB if one do not wish to add new items into inventory DB
    - o The number of Barcode Data Field is between 1 to 4
    - o The position of Display Filed is between 1 to 4



*Figure 28 – Inventory Application Menu*

# 7. Troubleshooting

| PROBLEM | CAUSE | SOLUTION |
|---|---|---|
| KDC not working | Dead battery | ● Charge battery by connecting KDC to your PC using the included cable |
| | Hardware failure | ● Contact distributor for technical support |
| KDC not charging | Bad battery | ● Replace battery – Contact Local Distributor |
| | Poor USB port | ● USB port doesn't supply proper current to KDC - Charge KDC using a different USB port on your PC |
| Failed reading | Damaged barcode | ● Scan a different barcode |
| | Out of scan range | ● Move the scanner closer to barcode<br>● Move scanner farther from the barcode |
| | Incorrect angle | ● Change the angle of scanner to barcode |
| | Symbology not supported | ● Contact KoamTac - www.koamtac.com for possibility of custom symbology support |
| | Scan options | ● Check scan option settings |
| | Dirty scan window | ● Clean scan window |
| | Damaged scan window | ● Replace scan window |
| KDC reads wrong barcode | Dirty scan window | ● Clean scan window |
| | Damaged scan window | ● Replace scan window |
| | Poor quality barcode | ● Select only necessary barcodes<br>● Increase minimum barcode length<br>● Increase security level |
| Can't communicate with PC, PDA, or smartphone | USB cable is not connected properly | ● Check cable connection between KDC and host device |
| | Software is not working properly | ● Reload the software |
| | COM configuration | ● Check COM port configurations |
| LED blinks yellow | Low battery power | ● Charge the battery by connecting KDC to PC.<br>● KDC will lose collected data if the battery is empty. |
| Buffer Full Message | Full Memory | ● Clear the Memory using Synchronization program |
| Empty Battery Message | Empty battery | ● Connect USB immediately.<br>● Synchronize the collected data and charge KDC |
| Abnormal KTSync Operation on DELL PC | Quickset Utility | ● Disable Quickset Utility before using KTSync.<br>● Dell Quickset utility interrupts normal KTSync operation |
| | WSED Utility | ● Disable WSED Wireless enable/disable utility<br>● delete the folder C:\Program Files\WSED, which contains a file WSED.exe, with the same icon as in the taskbar<br>● Delete the registry entry KEY_LOCAL_MACHINE \SOFTWARE\Microsoft\Windows\CurrentVersion\Run\WSED |

*Table 5 - Troubleshooting Techniques*

# 8. 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. ("Koam Tac") manufactures its hard ware produ cts in accord ance with indust ry-standard practices. Unless othe rwise ag reed in  a co ntract, KDC i s warranted for  a p eriod  of on e year after purchase, co vering defe cts in material  and workm anship excep t recha rgeable battery. Ko amTac will repair or, at its opinion, re  place products that prove  to be defective  in material or workman ship und er 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 unu sual physical or  electrical stress, misuse, a buse, power  shortage, ne gligence or accident or (iv) in which the unit has been used other than in accordance with the product operating and handling inst ructions. Prev entive mainte nance is the  responsibility of the custo mer and i s not covere d under this warranty. Under no circumstance will KoamTac be liable for any direct, indirect, consequential or incidental damages ari  sing out of use or inabilit    y 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: Chang es o r modificatio ns not expre  ssly approved   by the manufacturer respon    sible for compliance could void the user's authority to operate the equipment.

# 9. CONTACT INFORMATION

KOAMTAC

CORPORATE HEADQUARTERS

116 Village Boulevard, Suite 200, USA

Princeton, NJ  08540

PH: 609-734-4335  FAX: 609-228-4373

email: support@koamtac.com

**For more information, visit our website - 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.

|  | *KDC100/200/250/410/415* | *KDC300/420/425* |
|---|---|---|
| *1D Barcodes* | 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 |
| *2D Barcodes* | *N/A* | AztecCode, AztecRunes, CodablockF,Code 16K, Code49, DataMatrix, MaxiCode, MicroPDF, PDF417, & QRCode and HanXin Code |
| *Postal Barcodes* | *N/A* | AusPost, CanadaPost, ChinaPost, JapanPost, KoreaPost, KixPost, Planet Code, Postnet (US), & UKPost |
| *OCR Fonts* | *N/A* | OCR-A, OCR-B, OCRUSCurrency, OCRMICRE13B, & OCRSEMIFONT |

*Table 6 - 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 7 - 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 8 - 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

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 9 - Symbology Conversion*

# Verification of Optional "Check Digit"

Code39 and Interleave 2 of 5 have an optional che ck di git, whi ch, by default, is not verified. Their verification can be enabled by sel ecting the optio n **VerifyCheckDigit** to tru e or you can e nable th e verification f or individu al symbologi es. If the c heck digit verification fails then the barco de 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 10 - 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 | **Yes** | **Yes** | **Yes** | **Yes** | **Yes** | **Yes** |
| EAN13_ReturnCheckDigit | **Yes** | No effect | No effect | No effect | No effect | No effect |
| EAN8_ReturnCheckDigit No | effect | **Yes** | No effect | No effect | No effect | No effect |
| UPCA_ReturnCheckDigit | No effect | No effect | **Yes** | No effect | No effect | No effect |
| UPCE_ReturnCheckDigit N | o effect | No effect | No effect | **Yes** | No effect | No effect |
| Code39_ReturnCheckDigit No | effect | No effect | No effect | No effect | **Yes** | No effect |
| I2of5_ReturnCheckDigit | No effect | No effect | No effect | No effect | No effect | **Yes** |

*Table 11 - 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 12 - Resolution of Inconsistencies*

# A.3 Miscellaneous Barcode Information

## 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 KDC200?**

A: The KDC200 supports most major 1D barcode symbologies. Below is a list of the1D symbologies supported by the KDC200.

### KDC300/420/425

#### 2D Barcodes

AztecCode, AztecRunes, Codablock, Code16K, Code49, DataMatrix, MaxiCode, MicroPDF, PDF417, and QRCode

#### 1D Barcodes

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

#### Postal Barcodes

AusPost, CanadaPost, ChinaPost, JapanPost, KoreaPost, KixPost, Planet Code, Postnet (US), and UKPost

#### OCR Fonts

OCR-A, OCR-B, OCRUSCurrency, OCRMICRE13B, and OCRSEMIFONT

### KDC100/200/250/410/415

#### 1D Barcodes

EAN13
EAN8
UPCA
UPCE
Bookland EAN
EAN13 with Add-on
EAN8 with Add-on
UPCA with Add-on
UPCE with Add-on
Interleave 2 of 5
ITF14
Code128
Codabar
GS1-128
Code39
Code93
Code35

*Table 13 - Symbologies Supported by KDC*

# B.2 Host Interface

**Q: What interface ports are supported by the KDC200?**
A: The KDC200 has one ultra mini USB port which supports serial and USB-Serial. It also supports *Bluetooth* profiles.

**Q: What *Bluetooth* protocol stacks are supported by KDC200?**
A: The KD200 has *Bluetooth* HID and SPP profiles. KDC200i/250i/300i/350i/400i also supports "Made for iPhone" *Bluetooth* profile.

# B.3 Battery

**Q: How long will the KDC200 battery last before it needs to be replaced?**
A: The battery on the KDC200 can be charged at least 300 times before it needs to be replaced.

**Q: How long does it take to charge the KDC200?**
A: It takes about 2 hours to fully charge the KDC200 from an empty battery status to a fully charged status.

**Q: How many barcodes can a fully charged KDC200 scan?**
A: The KDC200 can scan more than 10,000 barcodes when fully charged. Using *Bluetooth*, it can scan more than 7,500 barcodes. KDC200i would scan less barcodes than KDC200.

**Q: How long will the KDC200 battery lasts in the sleep mode?**
A: KDC200 last several days with *Bluetooth* connection. KDC200i last less than KDC200.

**Q: Can I replace the KDC200 battery?**
A: Yes. The KDC200 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 KDC200?**

A: KDC200 have basic 180KB data memory and optional 4MB extended memory. 180KB can store more than 10,000 UPC barcodes and 4MB can store more than 100,000 product database. 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® is keyboard wedging, application generation, DB look up and inventory program bundled with the KDC100/200/300 which supports host devices running on Android®, iPhone/iPad/iPod touch, Blackberry®, Windows® XP/Vista/7/Mobile5.0+.

**Q: Does the KDC200 support *Android*®, *iPhone/iPad/iPod touch*®, *Blackberry*®, Mac® and *Windows*® devices?**

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

# B.5 Programming

**Q: Can the KDC200 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 KDC200?**
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 KDC200?**
A: A software development kit for``````````` Windows$^®$ XP/Vista/7/Mobile5.0+, Android is available on KoamTac support page. Android$^®$, iPhone/iPad/iPod touch, Blackberry$^®$, Mac$^®$ SDK are available through KoamTac authorized distributors.

# APPENDIX C - SPECIAL BARCODES

## C.1 Set Symbologies (KDC100/200/250/350)

Enable EAN13

2000001

Disable EAN13

2100001

Enable EAN8

2000002

Disable EAN8

2100002

Enable UPCA

2000004

Disable UPCA

2100004

Enable UPCE

2000008

Disable UPCE
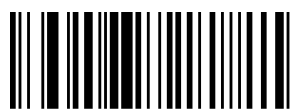
2100008

Enable Code39

2000010

Disable Code39

2100010

Enable ITF14

‖‖‖‖‖‖‖‖‖‖‖‖‖
2000020

Disable ITF14

‖‖‖‖‖‖‖‖‖‖‖‖‖
2100020

Enable Code128

‖‖‖‖‖‖‖‖‖‖‖‖‖
2000040

Disable Code128

‖‖‖‖‖‖‖‖‖‖‖‖‖
2100040

Enable I2 of 5

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2000080

Disable I2 of 5

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2100080

Enable Codabar

‖‖‖‖‖‖‖‖‖‖‖‖‖
2000100

Disable Codabar

‖‖‖‖‖‖‖‖‖‖‖‖‖
2100100

Enable EAN128

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2000200

Disable EAN128

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2100200

Enable Code93

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2000400

Disable Code93

‖‖‖‖‖‖‖‖‖‖‖‖‖
2100400

Enable Code35

2000800

Disable Code35

2100800

Enable Bookland EAN

2001000

Disable Bookland EAN

2101000

Enable EAN13 with Addon

2002000

Disable EAN13 with Addon

2102000

Enable EAN8 with Addon

2004000

Disable EAN8 with Addon

2104000

Enable UPCA with Addon

2008000

Disable UPCA with Addon

2108000

Enable UPCE with Addon

2010000

Disable UPCE with Addon

2110000

# C.2 Barcode Options (KDC100/200/250/350)

Codabar - do NOT transmit start/stop

3000000001

Codabar - transmit start/stop

3100000001

Convert UPCE to UPCA

3000000200

Do NOT convert UPCE to UPCA

3100000200

Convert EAN8 to EAN13

3000000400

Do NOT Return Check Digit

3100001000

Convert UPCE to EAN13

3000000800

Do NOT Verify Check Digit

3100002000

Return Check Digit

3000001000

Do NOT convert EAN8 to EAN13

3100000400

Verify Check Digit

3000002000

Do NOT convert UPCE to EAN13

3100000800

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

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3020000000

Do NOT return check digit for UPCA

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3120000000

Return check digit for EAN8

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3040000000

Do NOT return check digit for EAN8

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3140000000

Return check digit for EAN13

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3080000000

Do NOT return check digit for EAN13

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3180000000

## C.3 Delete Last Scanned Barcode (KDC100/200/250/350)



80001

# C.4 Scan Options (KDC100/200/250/350)

Wide scan angle

3000004000

Narrow scan angle

3100004000

Normal filter mode

3100008000

High filter mode

3000008000

Auto Trigger Enable

5A001

Auto Trigger Disable

5A010

Continuous

5B000

Short

5B001

Medium

5B002

Long

5B003

Extra Long

5B004

# C.5 Scan Timeout (KDC100/200/250/350)

| | | |
|---|---|---|
| Timeout = 500msec | Timeout = 1sec | Timeout = 2sec |
| 101F4 | 103E8 | 107D0 |
| Timeout = 3sec | Timeout = 4sec | Timeout = 5sec |
| 10BB8 | 10FA0 | 11388 |
| Timeout = 6sec | Timeout = 7sec | Timeout = 8sec |
| 11770 | 11B58 | 11F40 |
| Timeout = 9sec | Timeout = 10sec | |
| 12328 | 12710 | |

# C.6 Minimum Barcode Length (KDC100/200/250/350)

Minimum Length = 2

002

Minimum Length = 3

003

Minimum Length = 4

004

Minimum Length = 5

005

Minimum Length = 6

006

Minimum Length = 7

007

Minimum Length = 8

008

Minimum Length = 9

009

Minimum Length = 10

00A

Minimum Length = 11

00B

Minimum Length = 12

00C

Minimum Length = 13

00D

Minimum Length = 14

00E

Minimum Length = 15

00F

Minimum Length = 16

010

Minimum Length = 17

011

Minimum Length = 18

012

Minimum Length = 19

013

Minimum Length = 20

‖‖‖ ‖ ‖‖‖‖‖‖‖
014

Minimum Length = 21

‖‖‖ ‖ ‖‖‖‖‖‖‖
015

Minimum Length = 22

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016

Minimum Length = 23

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017

Minimum Length = 24

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018

Minimum Length = 25

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019

Minimum Length = 26

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01A

Minimum Length = 27

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01B

Minimum Length = 28

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01C

Minimum Length = 29

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01D

Minimum Length = 30

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01E

Minimum Length = 31

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01F

Minimum Length = 32

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020

Minimum Length = 33

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021

Minimum Length = 34

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022

Minimum Length = 35

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023

Minimum Length = 36

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024

# C.7 Security Level (KDC100/200/250/350)

Security level = 1

||||||| || ||||| |||| |||
41

Security level = 2

||| || ||||||| ||| |||
42

Security level = 3

||| || |||||| ||| |||
43

Security level = 4

||| || |||||| | |||
44

# C.8 Data Process - Wedge/Store (KDC100/200/250/350)

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 (KDC100/200/250/350)

Prefix Enter Start

83000

Suffix Enter Start

83001

Prefix/Suffix Enter Finish

83002

Prefix/Suffix Enter Cancel

83003

Delete Prefix

83004

Delete Suffix

83005

Display Prefix

83006

Display Suffix

83007

AIM ID  None

8B000

AIM ID  In Prefix

8B001

AIM ID  In Suffix

8B002

# C.10 Data Process - Data Format – Handshake (KDC100/200/250/350)

Data format - Barcode only

84001

Data format - Packet data

84010

Enable Handshake

86001

Disable Handshake

86010

# C.11 Data Process - Termination Character & Duplicate Check (KDC100/200/250/350)

None

||||||||||||||||||||
88000

CR

||||||||||||||||||||
88001

LF

||||||||||||||||||||
88002

CR+LF

||||||||||||||||||||
88003

Tab

||||||||||||||||||||
88004

Check Duplicate Enabled

||||||||||||||||||||
89001

Check Duplicate Disabled

||||||||||||||||||||
89010

# C.12 Bluetooth (KDC200/250/350)

Enable Bluetooth Power

|||||||||||||||||||||||||
60001

Disable Bluetooth Power

|||||||||||||||||||||||||
60010

Enter Pairing Mode

|||||||||||||||||||||||||
61001

Discovering Enable

|||||||||||||||||||||||||
61101

Discovering Disable

|||||||||||||||||||||||||
61110

Connect To Last

|||||||||||||||||||||||||
61201

Connecting to

|||||||||||||||||||||||||
61301

Disconnect

|||||||||||||||||||||||||
6D000

HID Sync

|||||||||||||||||||||||||
6E000

Bluetooth Device type SPP

|||||||||||||||||||||||||
6A000

Bluetooth Device type HID iOS

|||||||||||||||||||||||||
6A001

Bluetooth Device type IPHONE

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6A002

Bluetooth Device type SPP2.0

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6A003

Bluetooth Device type HID Normal

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6A004

Enable Auto Connect

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62001

Disable Auto Connect

‖‖‖‖‖‖‖‖‖‖‖‖‖
62010

Enable Auto Power On

‖‖‖‖‖‖‖‖‖‖‖‖‖
66001

Disable Auto Power On

‖‖‖‖‖‖‖‖‖‖‖‖‖
66010

Enable Auto Power Off

‖‖‖‖‖‖‖‖‖‖‖‖‖
64001

Disable Auto Power Off

‖‖‖‖‖‖‖‖‖‖‖‖‖
64010

Enable Beep Warning

‖‖‖‖‖‖‖‖‖‖‖‖‖
68001

Disable Beep Warning

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68010

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

BT Toggle Enable

||||||||||||||||||||||
6B001

BT Toggle Disable

||||||||||||||||||||||
6B010

## C.13 Bluetooth Auto Power On Time (KDC200/250/350)

Auto Power On Time Disabled

67000

Auto Power On Time 1sec

67001

Auto Power On Time 2sec

67002

Auto Power On Time 3sec

67003

Auto Power On Time 4sec

67004

Auto Power On Time 5sec

67005

Auto Power On Time 6sec

67006

Auto Power On Time 7sec

67007

Auto Power On Time 8sec

67008

Auto Power On Time 9sec

67009

Auto Power On Time 10sec

6700A

## C.14 Bluetooth PWR Off Time (KDC200/250/350)

1min

||||||| ||| |||||| ||||| || |||
69001

2min

||| || |||||| ||||| ||| |||| |
69002

3min

||||| ||| |||| |||| || |||| |
69003

4min

||| ||| |||||| |||||| || ||| |
69004

5min

||| || ||||| ||| ||| |||| |||
69005

6min

||| || |||| |||||| ||||| || |
69006

7min

||| || ||| |||| |||| || ||| |
69007

8min

||| ||| |||| ||| |||| ||| || |
69008

9min

||| || |||||| |||| ||| ||| |
69009

10min

||| || ||||| ||| ||| |||| |||
6900A

11min

6900B

12min

6900C

13min

6900D

14min

6900E

15min

6900F

16min

69010

17min

69011

18min

69012

19min

69013

20min

69014

21min

69015

22min

69016

23min

‖‖ ‖‖‖‖ ‖‖‖‖ ‖‖‖ ‖‖ ‖ ‖‖
69017

24min

‖‖ ‖‖‖ ‖‖‖‖‖ ‖‖‖‖ ‖‖ ‖‖
69018

25min
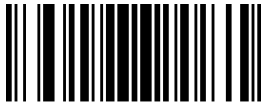
‖‖ ‖‖ ‖‖‖‖‖ ‖‖‖ ‖‖ ‖ ‖‖
69019

26min
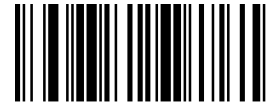
‖‖ ‖ ‖‖‖ ‖‖‖‖‖ ‖‖‖ ‖‖
6901A

27min

‖‖ ‖‖‖‖ ‖ ‖‖‖ ‖‖‖ ‖ ‖‖
6901B

28min

‖‖ ‖ ‖‖‖‖ ‖‖‖ ‖‖‖ ‖ ‖‖
6901C

29min

‖‖ ‖ ‖‖‖‖ ‖ ‖‖‖ ‖‖‖ ‖‖
6901D

30min

‖‖ ‖ ‖‖‖ ‖‖‖‖ ‖‖‖ ‖‖
6901E

# C.15 Auto lock Time (KDC200/250/350)

0 min (Never)

6C000

1 min

6C001

2 min

6C002

3 min

6C003

4 min

6C004

5 min

6C005

10 min

6C00A

15 min

6C00F

## C.16 HID Keyboard layout (KDC100/200/250/350)

US



6F000

German



6F001

French



6F002

Italian



6F003

Spanish



6F004

# C.17 HID Initial Delay (KDC200/250/350)

Disabled

H0000

1 second

H0001

2 seconds

H0002

3 seconds

H0003

5 seconds

H0005

10 seconds

H000A

# C.18 HID Character Delay (KDC200/250/350)

Disabled

H1000

10 msec

H100A

20 msec

H1014

30 msec

H101E

50 msec

H1032

100 msec

H1064

# C.19 HID Control Character (KDC200/250/350)

Disabled



H2000

Alt+Numpad



H2001

^+Character



H2002

Replace with '|'



H2003

# C.20 System (KDC100/200/250/350)

0.5M / 3.5M      1M

||||| |||| ||||| ||||||| |||| |||||
5E000

/ 3M

||| |||||| |||||||| |||| ||||||| |||
5E001

2M / 2M      3M

||| |||||| |||| ||||||| ||| ||||| |||
5E002

/ 1M

||| ||||| |||||||| |||| ||||| |||
5E003

4M / 0M      Confirm

||| |||||| |||| ||||| |||| ||||| |||
5E004

Memory size change

||| |||| |||||| ||||||| ||| |||
5E100

Memory Status      Reset

||| |||| ||||| ||||| |||| ||||| |||
50001

Memory

||| |||| |||||| ||||| ||| |||
50002

Erase Memory      Re

||| ||||| |||||| ||||| |||| |||
50003

set App data

||| |||| |||||| ||||| |||| |||
50004

Reset BT Registry

||| ||||| |||||| ||||| |||| |||
50005

SPP Sync

||| |||| |||||| ||||| ||||| |||
6E001

Auto Erase Enable

Auto Erase Disable

5F001

5F010

Date/Time          Battery

52001

53001

Version

54001

Button Lock       Button

Unlock

55001

55010

Enable Beep Sound      Disable

Beep Sound

56001

56010

High Beep Volume       Low

Beep Volume

5D001

5D010

Enable Auto Menu Exit          Disable

Auto Menu Exit

58001

58010

MFi Mode  Enable

6M001

MFi Mode  Disable

6M010

Enable Port Status          Disable

58101

Port Status

58100

Time & Battery          Type

58200

& Time

58201

Type & Battery          Memory

58202

Status

50001

GPS Data (KDC250/350)

58205

Barcode Only

58204

Enable Scrolling

59001

Disable Scrolling

59010

Factory Default

57001

Disable Buttons

A0004

Enter Menu

A0005

# C.21 Sleep Timeout (KDC100/200/250/350)

Disable

|||| ||| ||||||||| ||| |||||
51000

1sec

||| ||| |||||| ||||| |||||||
51001

2sec

||| ||| ||||||| |||| ||||||
51002

3sec

||| ||| |||||||| |||| ||||
51003

4sec

||| || |||||||| |||| ||||||
51004

5sec

||| ||| ||||| ||||||| |||||
51005

10sec      20sec

||| ||| ||||| |||| |||| |||||
5100A

||| ||| ||||| |||||| ||||||
51014

30sec

||| ||||| ||||| ||| ||||||||
5101E

1min

||| ||||| |||||| |||| |||||
5103C

2min

||| ||| ||||||| ||||| |||||
51078

5min

||| ||||||| |||||| |||| |||
5112C

138

10min

51258

# C.22 ETC (KDC100/200/250/350)

Reverse Direction Enable

||| || |||||||| ||| ||| || |||||||
3000000002

Return check digit Enable

||| ||| |||| ||| ||| |||||| ||| |||
3001000000

Verify check digit Enable

||| || ||||||| ||| |||||| |||| |||
3002000000

Reverse Direction Disable

||| || ||||| ||||||| || ||||| |||
3100000002

Return check digit Disable

||| || |||||| |||||||||| ||||| |||
3101000000

Verify check digit Disable

||| || |||||||| ||||| |||| || |||
3102000000

# C.23 Function (KDC100/200/250/350)

F1

7001

F2

7002

F3

7003

F4

7004

F5

7005

F6

7006

F7

7007

F8

7008

F9

7009

F10

700A

F11

700B

F12

700C

# C.24 Number (KDC100/200/250/350)

0

7130

1

7131

2

7132

3

7133

4

7134

5

7135

6

7136

7

7137

8

7138

9

7139

# C.25 Lower Case Alphabet (KDC100/200/250/350)

a

7161

b

7162

c

7163

d

7164

e

7165

f

7166

g

7167

h

7168

i

7169

j

716A

k

716B

l

716C

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 (KDC100/200/250/350)

A

7141

B

7142

C

7143

D

7144

E

7145

F

7146

G

7147

H

7148

I

7149

J

714A

K

714B

L

714C

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 (KDC100/200/250/350)

BS

7108

TAB

7109

LF

710A

VT

710B

CR

710D

ESC

711B

Space

7120

DEL

717F

# C.28 Symbol Character (KDC100/200/250/350)

!

7121

"

7122

#

7123

$

7124

%

7125

&

7126

'

7127

(

7128

)

7129

*

712A

+

712B

,

712C

-

712D

.

712E

/
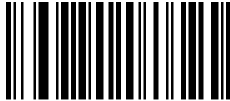
712F

:

713A

;
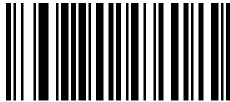
713B

<

713C

=

713D

>

713E

?

713F

@

7140

[

715B

\

715C

]
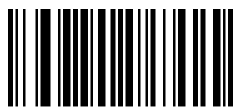
715D

^

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.*

# C.29 GPS (KDC250/350)

GPS Power Enabled

G0001

GPS Power Disabled

G0010

GPS Bypass Data Enabled

G1001

GPS Bypass Data Disabled

G1010

Reset GPS Module

G2000

GPS Acquire Test

G2001

GPS Power Save Mode(Normal)

G2002

GPS Power Save Mode(Power Saving)

G2003

GPS Auto Power Off Enabled

G3001

GPS Auto Power Off Disabled

G3010

# C.30 Auto Power Off Timeout (KDC250/350)

0 min (Disabled)

G4000

5 min

G4005

10 min

G400A

20 min

G4014

30 min

G401E

60 min

G403C

120 min

G4078

Display Format = GPS Data

58204

# INDEX