

KOAMTAC 

# KDC User Manual

Rev 2.85.R6 / 2.86.R6 / 3.05.R6

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## Table of Contents

<b>Listing of figures.....</b>	<b>8</b>
<b>Listing of tables.....</b>	<b>9</b>
<b>1. Introduction.....</b>	<b>14</b>
1.1 <i>KDC Package.....</i>	15
1.2 <i>KDC Characteristics.....</i>	16
<b>2. Installation.....</b>	<b>17</b>
2.1 <i>Bluetooth Pairing.....</i>	17
2.1.1    Preparing for Pairing.....	17
2.1.2    Pairing.....	18
2.2 <i>KoamTac Installation Wizard.....</i>	21
2.2.1    Windows 7 and 8.....	21
2.2.2    Windows Mobile 5.0+.....	24
2.2.3    Android.....	26
2.2.4    Blackberry.....	26
2.2.5    iPad/iPhone/iPod touch.....	26
2.3 <i>Manual Installation.....</i>	27
2.3.1    Windows XP/Vista7/8.....	27
2.3.2    Windows Mobile 5.0+.....	27
<b>3. Operating the KDC.....</b>	<b>28</b>
3.1 <i>Getting Started.....</i>	28
3.1.1    Attach Lanyard/Hand strap to KDC.....	28
3.1.2    Charge KDC Battery.....	28
3.1.3    Configure KDC.....	28
3.2 <i>Basics.....</i>	30
3.2.1    Reading Barcodes.....	30
3.2.2    Delete Data Function in KDC20.....	31
3.2.3    Synchronizing Data to the host device.....	31
3.3 <i>KDC Menus.....</i>	32
3.3.1    Set Barcodes Menu.....	35

3.3.2	Code Options Menu .....	35
3.3.3	Scan Options Menu .....	35
3.3.4	Data Process Menu .....	36
3.3.5	BT Config Menu.....	40
3.3.6	BT Service.....	41
3.3.7	System Menu .....	42
3.3.8	Pair and connect KDC20iand iOS4.0+ in HID mode .....	43
3.3.9	iOS Soft Keyboard toggling using BT Toggle option.....	44
3.4	<i>LED Status</i> .....	45
3.5	<i>Empty Battery</i> .....	45
3.6	<i>Buffer Full</i> .....	46
3.7	<i>Power-on/off</i> .....	46
3.8	<i>Replace Battery</i> .....	46
<b>4.</b>	<b>BLUETOOTH .....</b>	<b>48</b>
4.1	<i>Bluetooth Config</i> .....	48
4.1.1	ConnectDevice .....	48
4.1.2	Auto Connect .....	49
4.1.3	Auto Reconnect.....	49
4.1.4	Auto Power On .....	49
4.1.5	PWR ON Time .....	49
4.1.6	Auto Power Off.....	50
4.1.7	Beep Warning .....	50
4.1.8	PWR OFF Time .....	50
4.1.9	PowerOFF Msg.....	50
4.1.10	MAC Address .....	50
4.1.11	FW Version .....	50
4.1.12	Wakeup Nulls.....	51
4.1.13	Autolock Time.....	51
4.1.14	HID Keyboard.....	51
4.1.15	HID Initial and Inter-Character Delay .....	51
4.1.16	Control character transmission in HID mode.....	51

4.1.17	Function key transmission in HID mode .....	52
4.1.18	Disconnect/Reconnect/BT(HID) Toggle .....	52
4.2	<i>Bluetooth Service</i> .....	53
4.2.1	Power .....	53
4.2.2	Pairing.....	53
4.2.3	Discovering .....	54
4.2.4	Connect To .....	54
4.2.5	HID Sync .....	54
<b>5.</b>	<b>Synchronization .....</b>	<b>55</b>
5.1	<i>KTSync Menu</i> .....	55
5.2	<i>File Menu</i> .....	58
5.2.1	Connect to KDC .....	58
5.2.2	Synchronize.....	59
5.2.3	Bluetooth .....	59
5.2.4	Configuration .....	60
5.3	<i>Synchronization Settings</i> .....	61
5.3.1	Destination of Data .....	62
5.3.2	Synchronization Methods .....	62
5.3.3	Current KDC Wedge Method .....	63
5.3.4	Synchronization Options.....	64
5.3.5	Application Options .....	64
5.4	<i>Barcode &amp; KDC Settings</i> .....	66
5.4.1	Select Symbologies and Symbology Options .....	67
5.4.2	Data Editing Option.....	67
5.5	<i>Other Settings</i> .....	68
5.6	<i>KDC Menu in KTSync</i> .....	69
5.7	<i>Mobile pKTSync</i> .....	70
5.8	<i>Android aKTSync</i> .....	71
5.8.1	KDC and Android Pairing.....	71
5.8.2	Launch KTSync.....	71
5.8.3	Keyboard Wedge.....	72
5.9	<i>iPad/iPhone/iPod touch KTSync</i> .....	73
5.9.1	KDC20i connection using iPhone mode .....	73

5.9.2	iKTSync Settings .....	74
5.9.3	How to connect and reconnect iPhone mode using UP keys .....	74
5.10	<i>Blackberry bKTSync</i> .....	75
5.11	<i>KTSync for Mac OS X</i> .....	77
5.11.1	Connect Button .....	78
5.11.2	Disconnect Button .....	78
5.11.3	Synchronize Button .....	78
5.11.4	Clear Button .....	78
5.11.5	Settings Button .....	79
<b>6.</b>	<b>TROUBLESHOOTING .....</b>	<b>82</b>
<b>7.</b>	<b>WARRANTY .....</b>	<b>83</b>
<b>8.</b>	<b>Contact Information .....</b>	<b>84</b>
<b>9.</b>	<b>APPENDIX A - Barcode &amp; Scan Options .....</b>	<b>85</b>
9.1	<i>Symbologies</i> .....	85
9.1.1	Bookland EAN vs. EAN-13 .....	86
9.1.2	Add-on Symbologies .....	86
9.2	<i>Code Options</i> .....	87
9.2.1	Reverse Direction .....	87
9.2.2	Symbology Conversion .....	88
9.2.3	Verification of Optional “Check Digit” .....	88
9.2.4	Transmission of “Check Digit” .....	89
9.2.5	Resolution of Inconsistencies .....	90
9.3	<i>Miscellaneous Barcode Information</i> .....	91
9.3.1	Height of a Linear Barcode .....	91
9.3.2	Check Characters .....	91
9.3.3	Prevent Interleave 2 of 5 Partial Reading .....	91
9.3.4	Equation to Determining Potential Number of Stored Barcodes .....	92
9.3.5	Data Buffer Full .....	92
<b>10.</b>	<b>APPENDIX B – FAQ .....</b>	<b>93</b>
10.1	<i>Symbology</i> .....	93

10.2	Battery .....	94
10.3	Memory .....	94
10.4	Programming.....	94
<b>11. Appendix C - Special Barcodes.....</b>		<b>96</b>
11.1	Set Symbologies .....	96
11.2	Barcode Options .....	99
11.3	Delete Last Scanned Barcode.....	102
11.4	Scan Options .....	103
11.5	Scan Timeout .....	104
11.6	Minimum Barcode Length .....	105
11.7	Security Level .....	107
11.8	Data Process - Wedge/Store & Enter Key .....	108
11.9	Data Process – Data Edit .....	109
11.10	Data Process - Data Format – Handshake.....	110
11.11	Data Process - Termination Character & Duplicate Check.....	111
11.12	Bluetooth .....	112
11.13	Bluetooth Auto Power On Time .....	115
11.14	Bluetooth PWR Off Time .....	116
11.15	Auto lock Time .....	119
11.16	HID Keyboard layout.....	120
11.17	HID Initial Delay .....	121
11.18	HID Character Delay .....	122
11.19	HID Control Character.....	123
11.20	System.....	124
11.21	Sleep Timeout .....	128
11.22	ETC.....	130
11.23	Function .....	131
11.24	Number.....	132
11.25	Lower Case Alphabet .....	133
11.26	Upper Case Alphabet .....	135
11.27	Control Character.....	137
11.28	Symbol Character.....	138

11.29 *Auto Power Off Timeout* ..... 141

11.30 *USB DISK (M Model Only)* ..... 142

# Listing of figures

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*Figure 1- KDC Package..... 15*

*Figure 2 – Characteristics of KDC20..... 16*

*Figure 3 – How to turn on the power in KDC20..... 17*

*Figure 4 – Selecting a Bluetooth device type in KDC..... 18*

*Figure 5 – Selecting Pairing mode in KDC..... 18*

*Figure 6 – Pairing mode button in KDC20..... 18*

*Figure 7 – Finding Bluetooth Mac Address ..... 19*

*Figure 8 - Connecting KDC with a smart phone by scanning Bluetooth MAC Address Barcode.. 20*

*Figure 9 - Location and use of buttons on a keypad (KDC350)..... 29*

*Figure 10 – KDC Display..... 30*

*Figure 11 – Scanning barcodes with KTSync ..... 30*

*Figure 12 – Delete Function in KDC20..... 31*

*Figure 13 - Replacing Battery..... 47*

*Figure 14 - KTSync® Synchronizer Menu..... 55*

*Figure 15 – File Menu..... 56*

*Figure 16 – Setting Menu ..... 57*

*Figure 17 – Application Menu..... 57*

*Figure 18 – About Menu..... 57*

*Figure 19 - COM Port Selection for KDC..... 58*

*Figure 20 - Bluetooth Device Registry..... 60*

*Figure 21 – Configuration..... 61*

*Figure 22 - KTSync® Synchronization Settings..... 61*

*Figure 23 - Barcode & KDC Settings, Symbologies, Data Editing and Scan Options ..... 66*

*Figure 24 - KTSync® Confirmation Settings..... 68*

*Figure 25 – KDC Menu in KTSync (KDC20) ..... 69*

*Figure 26 – Mobile pKTSync..... 70*

*Figure 27 – Android aKTSync..... 72*

*Figure 28 – iPad/iPhone/iPod touch KTSync ..... 74*

*Figure 29 – Blackberry bKTSync..... 76*



# Listing of tables

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<i>Table 1 - KDC20 Specifications</i>	14
<i>Table 2 – KDC20 Menu Options</i>	35
<i>Table 3 - Explanation of LEDs</i>	45
<i>Table 4 - Troubleshooting Techniques</i>	82
<i>Table 5 - Symbologies Supported by KDC</i>	85
<i>Table 6 - Add-on for EAN-13 Symbology</i>	86
<i>Table 7 - Add-on for EAN-8 Symbology</i>	87
<i>Table 8 - Symbology Conversion</i>	88
<i>Table 9 - Verification of Optional "Check Digit"</i>	88
<i>Table 10 - Transmission of "Check Digit"</i>	89
<i>Table 11 - Resolution of Inconsistencies</i>	90
<i>Table 12 – Symbologies supported by KDC20</i>	93

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May be covered under the patent laws of the US and other countries. For patent information in the US, see <http://www.koamtac.com/corpVis.html>. There is a patent pending in UK as GB2492615.

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

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

### CAUTION:

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

## Regulatory Compliance



FCC ID: VH9KDC20

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

Scope of Opinion (Essential Requirements)	Applied Specifications / Standards	TCF Identification	Results
Article 3.1(a) - Health	EN 62311:2008	Statement	Complies
Article 3.1(a) – Safety	EN 60950-1:2006+A11:2009	ESTCS1101-002	Complies
Article 3.1(b) - EMC	EN 55022:2006+A1:2007 EN 55024:1998+A1:2001+A2:2003 ETSI EN 301 489-1 V1.8.1 (2008-04) ETSI EN 301 489-17 V2.1.1 (2009-05)	ESTCE0712-007(1)	Complies
Article 3.2 – Radio Spectrum Use	ETSI EN 300 328:V1.7.1 (2006-10)	ESTR0801-018(1)	Complies



208-140011

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



MSIP-CMM-A13-KDC20

**Laser Compliance.**

KDC20



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 OF 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](http://www.koamtac.com).

KDC20 Specifications	
FEATURE	Barcode scanner Compliant with Class II Bluetooth v2.0 and v2.1 Enhanced Data Rate(EDR) support
MAJOR PARTS	AT91SAM7S256-AU (ARM7 32bits PROCESSOR) F122 (Bluetooth module) VLM4122 (Scan Engine)
BLUETOOTH STANDARDS	Class II Bluetooth v2.1 + EDR 2.4 GHz - 2.4835 GHz SPP, HID profile Internal chip Antenna
INTERFACE	USB 2.0/1.1 (A-type connector)
POWER	Lithium-Polymer Battery (Typ. 3.7V, 190mAh) max. 110mA consumption @ 3.3V
PHYSICAL DIMENSIONS	1.50"x2.4"x0.56" (38mmx61mmx14.25mm)
WEIGHT	1.25oz. (35.5grams)

*Table 1 - KDC20 Specifications*

## 1.1 KDC Package

The standard KDC package contains:

1. One KDC Barcode Data Collector
2. One USB Cable
3. One Lanyard
4. KoamTac Installation CD with
  - KTSync® for Microsoft Windows XP, Vista 7 and Mobile 5.0+
  - KDC Device Driver
  - User Manual

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



KDC20

*Figure 1- KDC Package*

## 1.2 KDC Characteristics

Before you use your KDC, please become familiar with its physical characteristics. Refer to Figure 2 below which indicate placement of SCAN, UP and DOWN buttons, LEDs, and ports on your KDC. KDC20 does not include LCD screen since it is designed as the simplest barcode scanner to use without LCD screen.

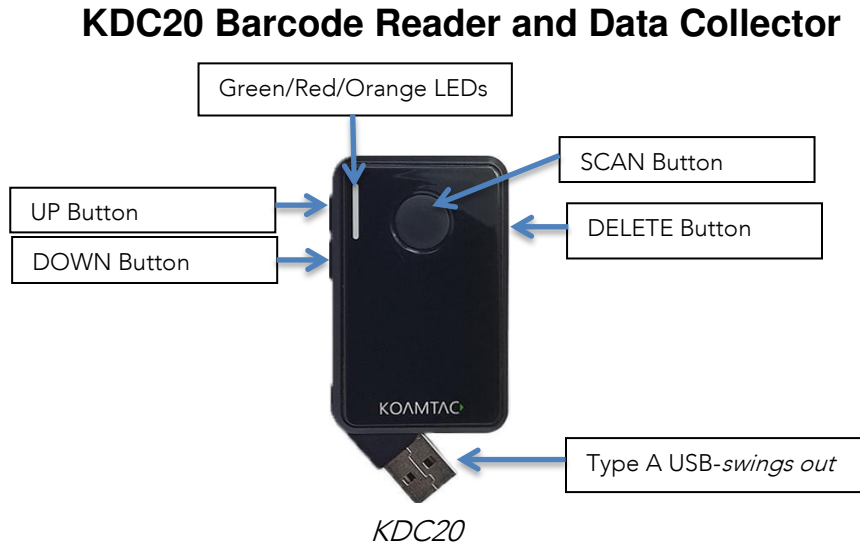


Figure 2 – Characteristics of KDC20



## 2. Installation

### 2.1 Bluetooth Pairing

KDC itself reads barcodes independently, and it can also be used in combination with PC, PDA, or smart phones. When you want to read barcodes with KDC in connection with other devices, you need to conduct pairing between your KDC and smart phone via Bluetooth first. Unless there are changes in Bluetooth settings, your smart phone will always recognize your KDC that has already been paired. However, if you change Bluetooth settings, you need to go through pairing process for your KDC again. You can also refer to [Chapter 4. BLUETOOTH](#) for more information about Bluetooth pairing.

#### 2.1.1 Preparing for Pairing

1. Turn on the power first if you are a KDC20 user.

Press SCAN and DOWN buttons simultaneously for 5 seconds. You will hear beep sound when it is turned on.



Figure 3 – How to turn on the power in KDC20

2. Set a Bluetooth device type mode. There are two ways to set a Bluetooth device type mode.

- Select and scan your Bluetooth device type barcode among the barcodes below, or
- 





## 2.1.2 Pairing

### Way One: Connect your KDC from your smart phone or PDA

This method is recommended for first-time users or when you are only connecting a few KDCs.

#### 1. Put your KDC into **Pairing** mode

- Select and scan a pairing barcode below according to your KDC model, or



- Press Scan button for three seconds to enter Pairing mode.

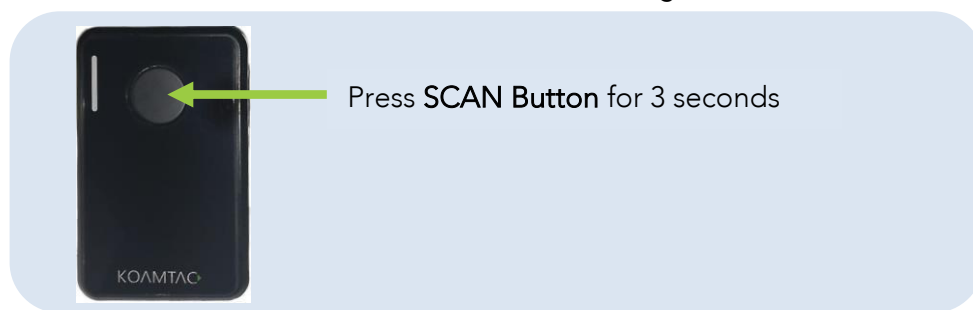
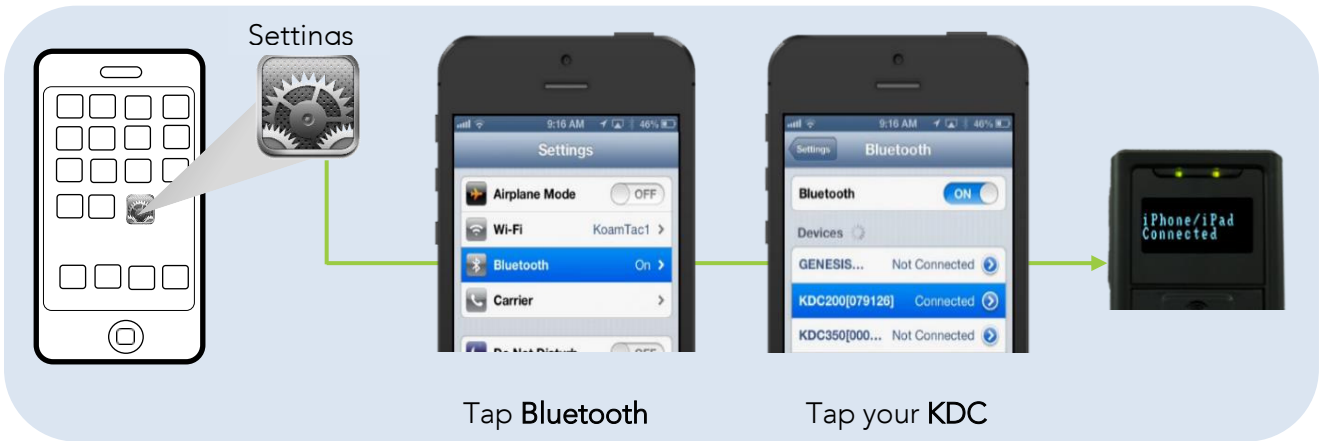


Figure 6 – Pairing mode button in KDC20

2. On your host device, go to **Settings->Bluetooth**, find the KDC with which you want to pair and select it. Your KDC and host device are now communicating each other.



3. Open KTSync after it has been installed and it will automatically find the KDC and connect. (Refer to [2.2 KoamTac Installation Wizard](#) for more information about installing KTSync)

### Way Two: Connect your host device from your KDC by scanning a Special Bluetooth MAC Address barcode

The method is recommended for more advanced users or when your application or process calls for pairing one of many KDCs to one of many host devices on a regular basis.

1. Find the **Bluetooth MAC Address** of your host device.

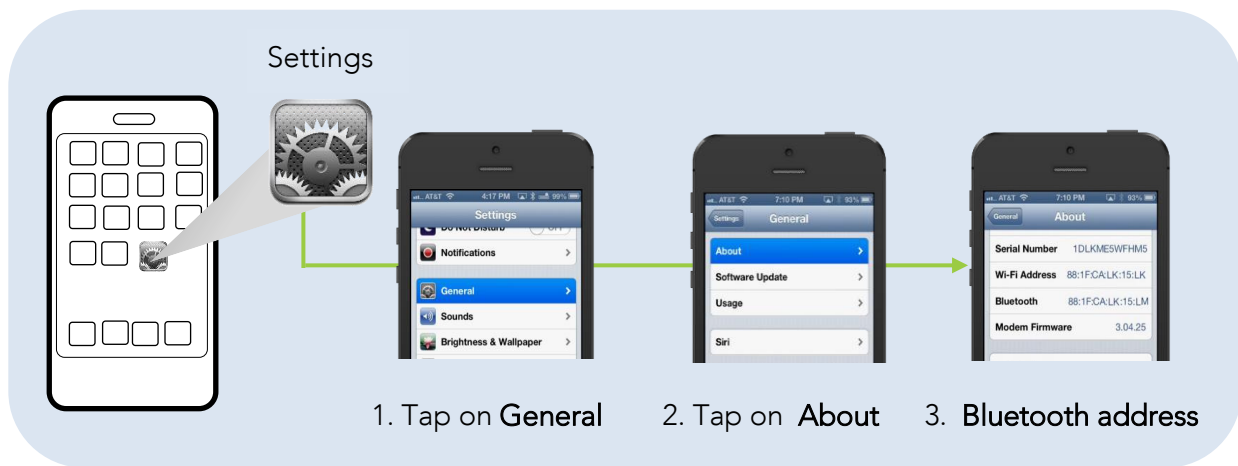


Figure 7 – Finding Bluetooth Mac Address

2. Create your **Bluetooth MAC Address Barcode** according to the format below.

Bluetooth MAC Address: **1234567890AB**  
 Barcode Type (Symbology): **Code 128**  
 Contents: **^FNC3651234567890AB** → **KDC200/250/410/415**  
           **SYNMCRKDC651234567890AB** → **KDC300/420/425**  
 Options: **includetext parsefnc**

3. Print your **Bluetooth MAC Address**

Note: Laser scanners like KDC20 is not designed to read from a LCD screen and will only read the printed barcode.

4. Connect your KDC to your host device by scanning the Bluetooth MAC Address Barcode.

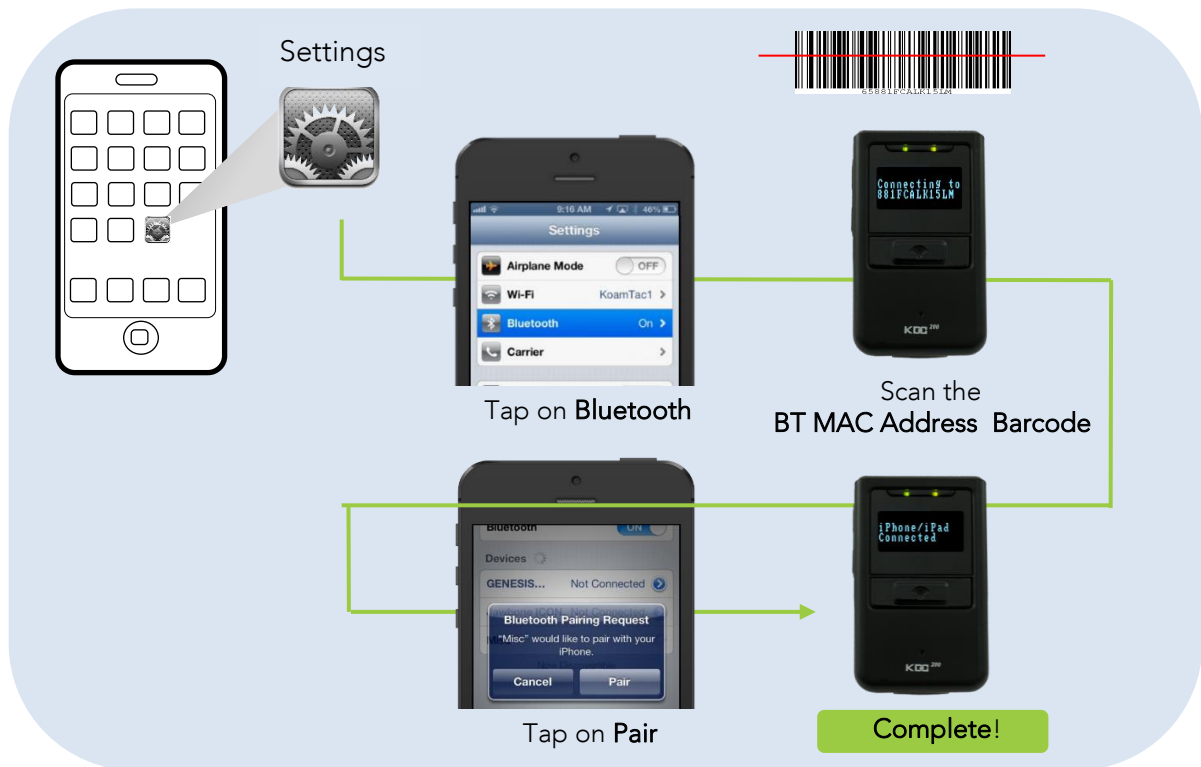


Figure 8 - Connecting KDC with a smart phone by scanning Bluetooth MAC Address Barcode

5. Open KTSync after it has been installed and it will automatically find the KDC and connect. (Refer to [2.2 KoamTac Installation Wizard](#) for more information about installing KTSync)

## 2.2 KoamTac Installation Wizard

### 2.2.1 Windows 7 and 8

**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.

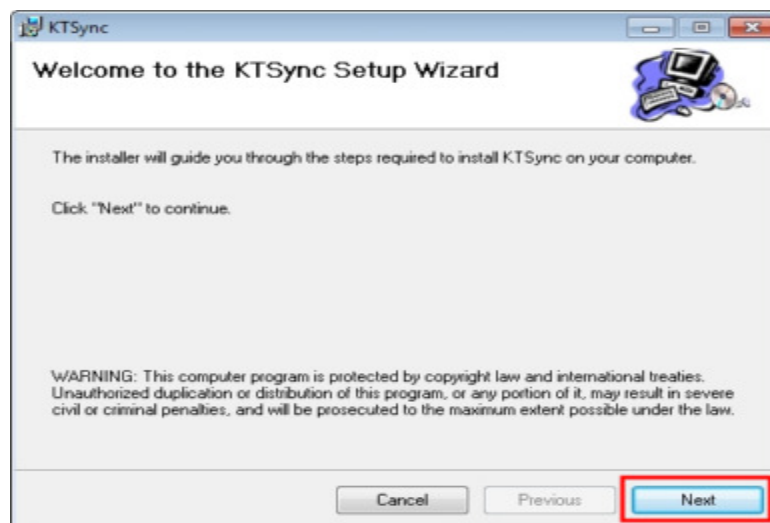
**Note:**

- 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 [2.3 Manual Installation](#).

#### *KTSync Setup Wizard*

Follow the steps to install KTSync as images below.

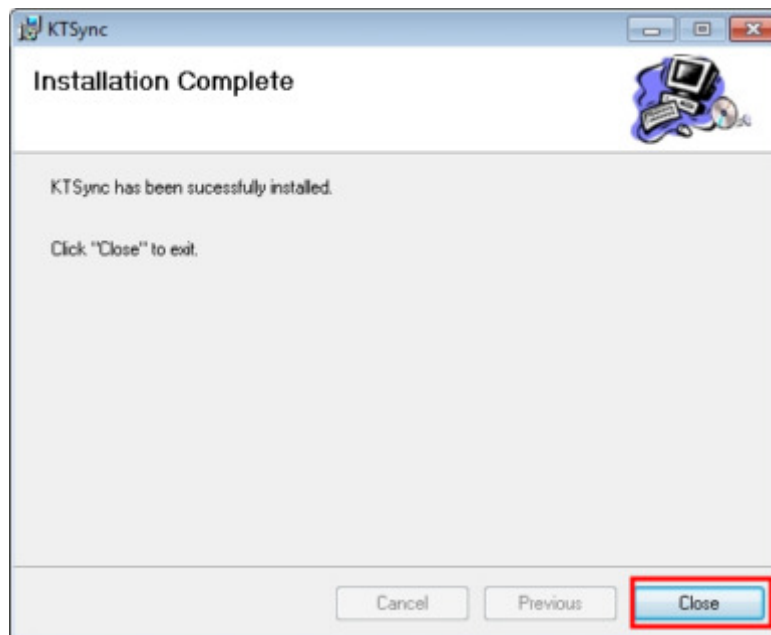
- Click **Next** icon in KTSync Setup Wizard window



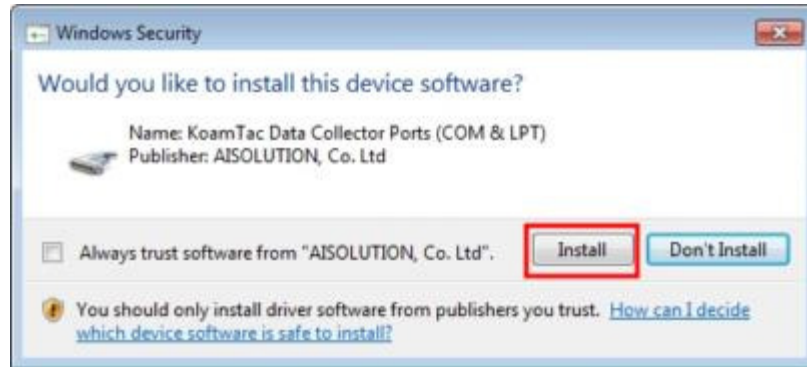
- Check " I Agree " and Click **Next** icon in License Agreement window



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



- Click **Install this driver** in Windows Security window and installation is finished.



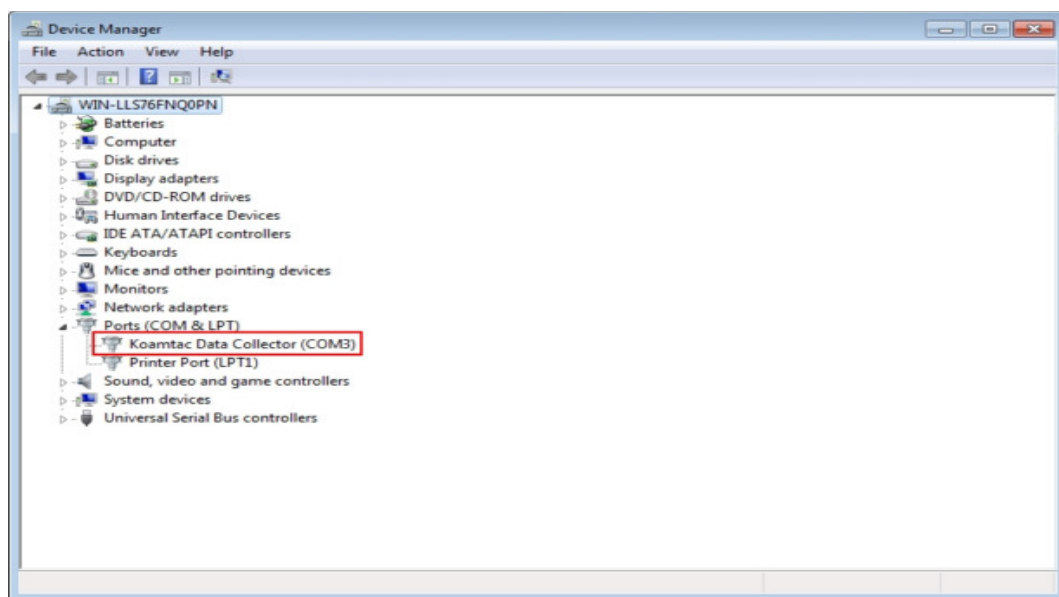
*Connect KDC to Computer*

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

- Connect 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*

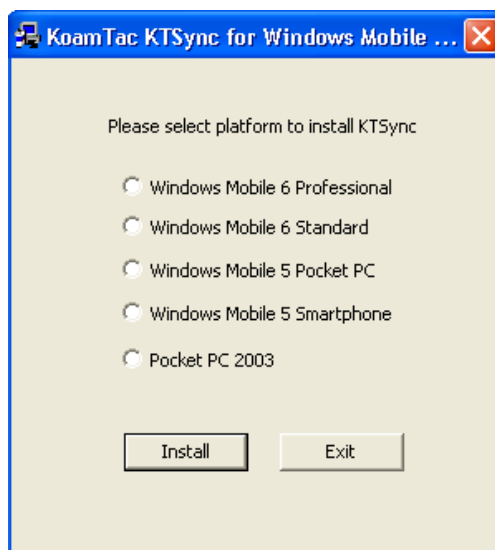
- User can verify installed COM Port in Device Manager



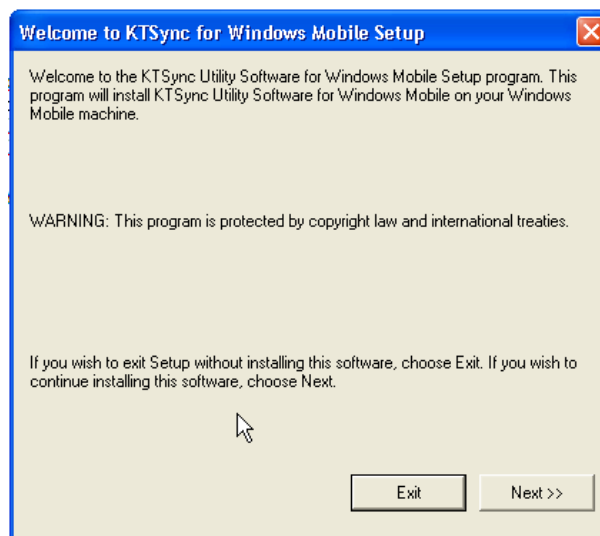
## 2.2.2 Windows Mobile 5.0+

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

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

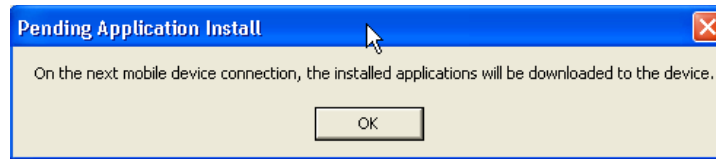


- Click Next icon.





- Click OK icon in Pending Application Install window



- Follow the instructions on PDA screen

### *COM port Assignment*

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

### 2.2.3 Android

- Download and install aKTSync from the Android Play Store  
<https://play.google.com/store/apps/details?id=com.koamtac.ktsync&hl>

### 2.2.4 Blackberry

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

### 2.2.5 iPad/iPhone/iPod touch

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



## 2.3 Manual Installation

### 2.3.1 Windows XP/Vista/7/8

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.

### 2.3.2 Windows Mobile 5.0+

Connect Windows Mobile PDA with your computer to install KTSync program.

1. Create a KoamTac folder in your PDA.
2. Copy the **Mobile5.0\_6.0** folder in KoamTac CD and paste it in the PDA KoamTac folder that was created in My Computer.
3. In the **Mobile5.0\_6.0** folder, you will find KTSync® Programs for Microsoft® Windows Pocket PC 2003, Mobile 5.0, Mobile 6.0 Standard, and Mobile6.0 Professional as well as KDC User Manual.

## 3. Operating the KDC

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### 3.1 Getting Started

#### 3.1.1 Attach Lanyard/Hand strap to KDC

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

To attach the 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

#### 3.1.2 Charge KDC Battery

Prior to using the KDC, you must charge its battery. It will take approximately 2 hours to charge your KDC20. To charge the battery, follow the directions below.

1. Connect the KDC cable to the mini USB connector on the KDC.
2. Connect the KDC cable to Type A USB connector on your computer.

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.

#### 3.1.3 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 using three different methods which are explained in [Section 3.3 – KDC Menus](#), [Chapter 4 –Synchronization](#), and [10. Appendix C – Special Barcodes](#).

#### CONFIGURATION METHODS FOR THE KDC20

- KTSync® Software
- Special Barcodes

## 3.2 Basics

### 3.2.1 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 window 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.*

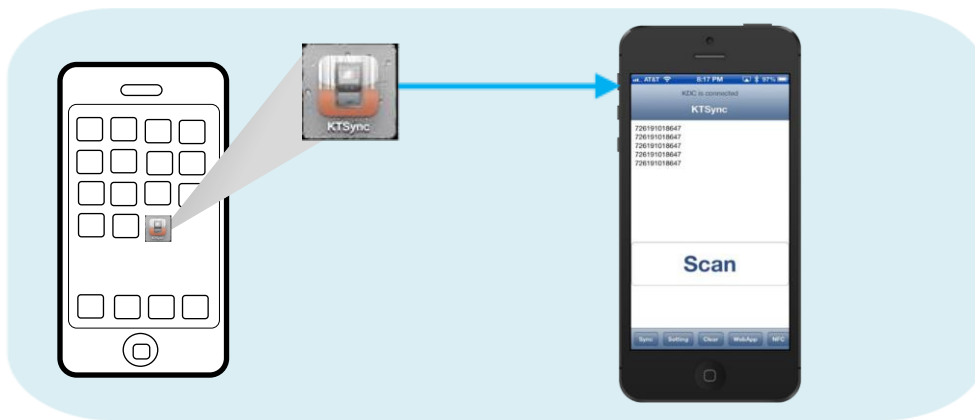


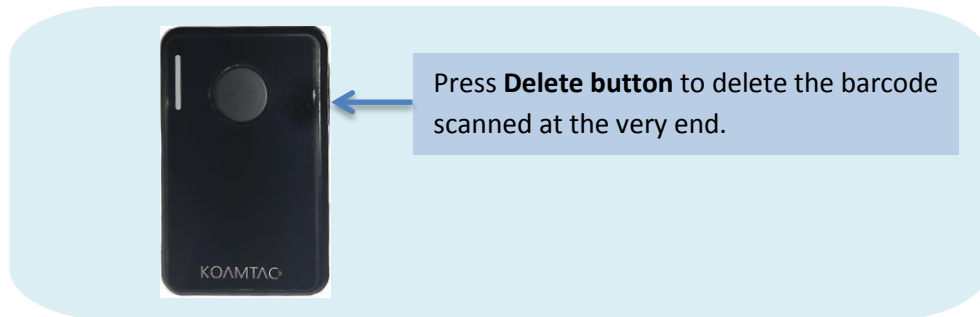
Figure 11 – Scanning barcodes with KTSync

If the scanning was unsuccessful, you will hear two beeps, the LEDs will illuminate in red, and the message ***Failed reading...*** will display. If you have problems with KDC in scanning a barcode, try the following suggestions while pointing the KDC at the barcode and pressing 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.

### 3.2.2 Delete Data Function in KDC20

You can delete the last scanned barcode by pressing the DELETE button on the right side of your KDC20 although it does not have LCD screen to view the data.



*Figure 12 – Delete Function in KDC20*

### 3.2.3 Synchronizing Data to the host device

Use the KTSync® program to synchronize barcode data from the KDC to your host device. Please refer to [Chapter 6. Synchronization](#) for details.

### 3.3 KDC Menus

Top Menu	Sub Menu	Options	KDC20
<i>Set Barcodes</i>	EAN13	Enabled/Disabled	Enabled
	EAN8	Enabled/Disabled	Enabled
	UPCA	Enabled/Disabled	Enabled
	UPCE	Enabled/Disabled	Enabled
	CODE39	Enabled/Disabled	Enabled
	ITF14	Enabled/Disabled	Enabled
	CODE128	Enabled/Disabled	Enabled
	I2of5	Enabled/Disabled	Enabled
	CODABAR	Enabled/Disabled	Enabled
	GS1-128	Enabled/Disabled	Enabled
	CODE93	Enabled/Disabled	Enabled
	CODE35	Enabled/Disabled	Enabled
	BooklandEAN	Enabled/Disabled	Disabled
	EAN13withAddon	Enabled/Disabled	Disabled
	EAN8withAddon	Enabled/Disabled	Disabled
	UPCAwithAddon	Enabled/Disabled	Disabled
UPCEwithAddon	Enabled/Disabled	Disabled	
<i>Barcode Options</i>	CodaBar_NoStartStopChars	Enabled/Disabled	Disabled
	UPCE_as_UPCA	Enabled/Disabled	Disabled
	EAN8_as_EAN13	Enabled/Disabled	Disabled
	UPCE_as_EAN13	Enabled/Disabled	Disabled
	ReturnCheckDigit	Enabled/Disabled	Disabled
	VerifyCheckDigit	Enabled/Disabled	Disabled
	UPCA_as_EAN13	Enabled/Disabled	Disabled
	I2of5_VerifyCheckDigit	Enabled/Disabled	Disabled
	Code39_VerifyCheckDigit	Enabled/Disabled	Disabled
	I2of5_ReturnCheckDigit	Enabled/Disabled	Disabled
	Code39_ReturnCheckDigit	Enabled/Disabled	Disabled
	UPCE_ReturnCheckDigit	Enabled/Disabled	Enabled
	UPCA_ReturnCheckDigit	Enabled/Disabled	Enabled
EAN8_ReturnCheckDigit	Enabled/Disabled	Enabled	
EAN13_ReturnCheckDigit	Enabled/Disabled	Enabled	
<i>Scan Options</i>	Scan Angle(KDC350L)	Narrow/Wide (Opticon Model Only)	Wide
	Filter(KDC350L)	Normal/High (Opticon Model Only)	Normal
	Time Out	.5 seconds to 10 seconds	2 second(s)
	Min. Barcode Length (KDC350L)	2 to 36 characters	4 chars



	Min. Barcode Length (KDC350C)	2 to 48 characters	4 chars	
	Security Level(KDC350L)	1 to 4 level	2 level	
	Image Capture(KDC350C)	Enabled/Disabled	N/A	
	Auto Trigger	Enabled/Disabled	Disabled	
	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	
<i>Data Process</i>	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	Enabled/Disabled		Disabled
	Terminator	None, CR, LF, CR+LF, Tab		CR+LF
Chk Duplicate	Enabled/Disabled		Disabled	
Enter Key(KDC350 Only)	Enabled/Disabled		Disabled	
<i>BT Config</i>	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 Reconnect	Enabled/Disabled		Disabled
	Auto Power On	Enabled/Disabled		Disabled
	Auto Power On/Power On Time	Disabled, 1sec to 10second(s)		Disabled
	Auto Power Off	Enabled/Disabled		Disabled
	Auto Power Off/Power Off Time	1 to 30 minutes		5 minutes
	PowerOff Msg	Enabled/Disabled		Disabled
MAC Address	12 Characters <i>Bluetooth</i> MAC Address			

	BT FW Version	Bluetooth Firmware Version	
	Wakeup Nulls	Enabled/Disabled	Disabled
	BT Toggle		Enabled
	BT Disconnect button	Enabled/Disabled	Enabled(KDC200/250/300/350L/350C) Disabled(KDC410/415/420/425/430/450)
	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
<b>BT Service</b>	Power	Enabled/Disabled	Enabled
	Pairing	Pairing neighboring Bluetooth devices	
	Discovering	Discovering neighboring <i>Bluetooth</i> devices	
	Connecting to	View Connect to <i>Bluetooth</i> device	
	HID Sync		
<b>USB Config (USB Serial Mode)</b>	USB Mode	USB Serial/USB Disk	USB Serial
<b>USB Config (USB Disk Mode)</b>	USB Mode	USB Serial/USB Disk	USB Disk
	Disk Format	Format KDC USB Disk	
	Data Format	Data,DateTime, DataType,DateTimeType	Data
<b>System Config</b>	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	Disabled
	Sleep Timeout	Disabled, 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	Disabled
Beep Sound	Enabled/Disabled	Enabled
Power On Beep	Enabled/Disabled	Enabled
Beep On Connect	Enabled/Disabled	Enabled
Beep On Scan	Enabled/Disabled	Enabled
Beep Volume	Low/High	Low
MFi Mode	Enabled/Disabled	Enabled
Vibrator	Enabled/Disabled	Enabled
Auto Exit	Enabled/Disabled	Enabled
Port Status	Enabled/Disabled	Enabled
Display Format	Time & Battery / Type & Time / Type & Battery / Memory Status / GPS Data(KDC250/350)/Barcode Only	Time & Battery
Menu Barcode	Enabled/ Disabled	Disabled
Scrolling	Enabled/Disabled	Enabled
Brightness	1 to 15 level(8 level)	8 level
Factory Default	Restores Default Settings	

Table 2 – KDC20 Menu Options

### 3.3.1 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 [11. Appendix – 11.1 Symbologies](#) for a detailed listing of symbologies supported by your KDC.

### 3.3.2 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 [11. Appendix A – 11.2 Code Options](#) for a detailed explanation of each option.

### 3.3.3 Scan Options Menu

- Scan Angle (Opticon model only): Allows you to configure the laser beam angle to the barcode. There are two options for scan angle: Wide and Narrow. Wide is

54° and Narrow is 27°. The default is Wide.

- Filter (Opticon model only): 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 interval between one scanning and the other. The timeout options are from 5 seconds 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 minimum barcode length of KDC20 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.*

### 3.3.4 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: KDC20i add 4 bytes barcode index to maintain last synchronized barcode information.*
  - 1) *This optional index would be added if data format is "Packet Data".*
  - 2) *4 bytes index would be added before "@" when responding to "p" command.*
  - 3) *4 bytes index plus "@" character would be added after checksum byte if user scan a barcode and wedging to the host.*

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

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

- ✓ **NOTE:** This Prefix option is different from the Prefix option in KTSync which appends the prefix to data during synchronization.
- ✓ **NOTE:** User can also define prefix by scanning characters defined in Appendix C. between following special barcodes.
- ✓ **KDC 20**

Prefix Enter Start



Prefix/Suffix Enter Finish



- ✓ **NOTE:** Users can also delete or display current prefix by scanning following special barcodes.
- ✓ **KDC20**

Delete Prefix



Display Prefix



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

- ✓ **NOTE:** This Suffix option is different from the Suffix option in KTSync which appends the suffix to data during synchronization.
- ✓ **NOTE:** User can also define suffix by scanning characters defined in Appendix C.27 ~ C.28(KDC350L) Appendix D.27 ~ D.28(KDC350C) between following special barcodes
- ✓ **KDC20**

Suffix Enter Start



Prefix/Suffix Enter Finish



- ✓ **NOTE:** User can also delete or display current suffix by scanning following special barcodes
- ✓ **KDC20**

Delete Suffix



Display Suffix



- **AIM ID** - Allows you to add AIM ID to scanned data which can then be stored in KDC or wedged to the host. AIM ID must be defined in data format menu of KTSync. AIM ID is either added to the end of Prefix or Suffix.
- **Partial Data**: Allows you to store and/or transfer partial data. User defines the

start position and number of characters to be stored and/or transferred.

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

### 3.3.5 BT Config Menu

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 buttons on the side of the KDC. Use the DOWN button to scroll to Bluetooth then press 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. BLUETOOTH.](#)

- ConnectDevice: Users can choose Bluetooth device type
  - Options - HID normal (KDC20)
    - HID iOS (KDC20)
    - SPP2.0
    - SPP(KDC20/20i)
    - iPhone (KDC20i)
- Auto Connect : Enabled or Disabled
- Auto Reconnect: Enabled or Disabled (iPhone, HID iOS, HID normal mode)
- Auto Power On: Enabled or Disabled
- PWR On Time: Disabled, 1 to 10 seconds
- Auto Power Off : Enabled or Disabled
- Beep Warning - Enabled or Disabled
- PWR Off Time - 1 to 30 Minutes
- PowerOff Msg – Enabled or Disabled
- MAC Address – 12 characters *Bluetooth* MAC Address
- FW Version – Display *Bluetooth* Firmware Version
- Wakeup Nulls – Enabled or Disabled
- Autolock Time – 0, 1, 2, 3, 4, 5, 10, 15 minutes
- BT Toggle – Enable or Disable HID soft keyboard or iPhone mode connection On/Off toggle.
- BT Disconnect Button – Enable or Disable Bluetooth disconnection by pressing down button for 3 seconds.
- HID AutoLock - Disabled, 1, 2, 3, 4, 5, 10, 15 minutes
- HID Keyboard – English, German, French, Spanish, Italian
- HID Initial Delay- Define the initial delay between 1 second to 10 seconds before data transmission in HID mode
- HID Inter-character Delay - Define the inter-character delay between 10msec to 100msec in HID mode
- HID Control Character - Map control characters to either ALT+Numlock or ^+Character.

### 3.3.6 BT Service

- Power : Turning on or off Bluetooth Power
  - Options – Enable/Disable
- Pairing Mode
  - KDC enters pairing mode so that host *Bluetooth* device can search KDC.

- KDC exits pairing mode either by pressing SCAN button or it fails to pair with *Bluetooth* host device in 90 seconds.

- Discovering: Search neighborhood *Bluetooth* devices
- Connecting To: Inquiry to registered *Bluetooth* devices
- HID Sync: KDC transmits all stored data to the host over HID profile if HID Sync option is enabled

### 3.3.7 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 button + UP button + DOWN button + DOWN button + 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*.
- 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 Alert
  - Beep Sound: Enables or disables KDC beep sound.
  - Power On Beep: Enables or disables beep sound when KDC power is on.
  - Beep On Connect: Enables or disables beep sound when KDC is connected to host.
  - Beep On Scan: Enables or disables beep sound when KDC is scanning.
- Beep Volume: High or low.
- MFi Mode (KDC20i): 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.
- Vibrator: Enables or disables KDC vibrator.
- 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
- Scrolling : Enables or disables display scrolling for a barcode with more than 40

- characters
- Brightness: Adjusts display brightness
  - Factory Default: Resets KDC options to factory default settings.

### 3.3.8 Pair and connect KDC20i and iOS4.0+ in HID mode

#### Note:

- Users have to disable MFi option in System > MFi menu to use HID Bluetooth profiles.
- Users have to RESET the iPhone/iPad/iPod touch to change HID to iPhone mode, and vice versa, after removing previous KDC connection.
- KDC with Bluetooth Spec. 2.1+EDR doesn't prompt Pin code entry menu.
- *KDC with Bluetooth Spec. 2.1+EDR stack doesn't require 4 or 6 digits PIN digits entry*

Follow the steps to pair and connect KDC models for MFi and iOS4.0 in HID mode.

1. Go to the KDC System > MFi menu.
2. Change MFi option to Disabled.
3. Change KDC to Pairing mode.
4. The iPhone/iPad/iPod touch will find a new device as **Keyboard**.
5. Click **Keyboard** device.

#### Note:

- *Please skip the following steps if iPhone/iPad/iPod touch doesn't ask for the PIN number.*
6. 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.
  7. As soon as the iPhone/iPad/iPod touch asks for the PIN number, KDC will display the PIN digits selection menu. By default, it is 6 digits.
  8. Press SCAN button to select the 6 digit PIN code for the iPad. Press DOWN button and then SCAN button to select the 4 digit PIN code for the iPhone/iPod touch.
  9. The iPhone/iPad/iPod touch will display the PIN code that users should enter into the KDC.
  10. By default, the KDC displays pin codes 555555(5555). Users can change the PIN code by using UP button on the side of the KDC unit to increase numbers, DOWN button to decrease numbers, and SCAN button to confirm and move to the next digit.

11. Once the last PIN number is entered, press and hold SCAN button for a few seconds. KDC will display *HID connected* message and the iPad/iPhone/iPod touch will display *Connected* message if paired successfully.

### 3.3.9 iOS Soft Keyboard toggling using BT Toggle option

1. Users need to select the option to use this feature in the BT Config > BT Toggle.
2. Press DOWN button to disconnect the HID connection and bring a soft keyboard (If DisconnectBTN option is enabled).
3. Press 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

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

Table 3 - Explanation of LEDs

### 3.5 Empty Battery

- Under 30% - Orange LED flickers at 1-second-interval for 5 seconds every minute.
- Under 20% - Orange LED flickers in 1- second-interval for 10 seconds every minute.
- Under 10% - Red LED flickers in 1- second-interval for 10 seconds every minute

and you will hear beeping sound.

## 3.6 Buffer Full

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

You can turn the power on and off by pressing DOWN and SCAN button simultaneously for 5 seconds. When the LED light is in green, you can release the buttons and the power is on. When you turn off your KDC20, you will hear a beep sound after you press DOWN and SCAN buttons simultaneously.

## 3.8 Replace Battery

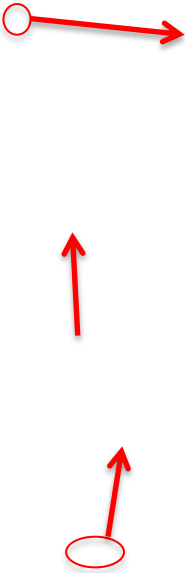
KDC comes with a rechargeable, Lithium-polymer battery. The battery is recharged from any USB port or KDC charging cradle and can be recharged about 300 times before it needs to be replaced. KoamTac recommends replacing the battery every six months as a declining battery will cause noticeable performance degradation in KDC. Replacement batteries can be purchased from a KoamTac distributor. Batteries should be disposed properly according to the WEEE regulation. The steps for replacing the battery are as follows.

1. Disassemble the KDC back cover by unscrewing the middle screw.
2. Remove old battery and replace with new battery.
3. Reassemble the back cover.

1



Unscrew the screw indicated by the arrow.



*Figure 13 - Replacing Battery*

## 4. BLUETOOTH

---

The KDC20 support HID (Human Interface Device) normal, HID iOS, SPP (Serial Port Profile) and SPP2.0 profiles. KDC20i 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

KDC20 can configure Bluetooth options using PC KTSync and special barcodes.

### 4.1 Bluetooth Config

#### 4.1.1 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 KDC20i.

User can connect and disconnect Bluetooth connection with the host device by pressing UP and DOWN buttons 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 also enable and disable iPhone and iPad soft key instantly using this BT Toggle option.

UP button shows Bluetooth connection status and DOWN button 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.



### 4.1.2 Auto Connect

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

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

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

### 4.1.3 Auto Reconnect

This feature allows the KDC to connect automatically to the host device when the KDC is disconnected from a host.

IMPORTANT: This feature is available when KDC "Connect Device" options are "iPhone", "HID iOS" and "HID Normal".

#### Note:

- *KDC tries to connect automatically to the host 10 times during two minutes if Bluetooth is disconnected.*

### 4.1.4 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.

### 4.1.5 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, user can turn on Bluetooth power by pressing SCAN button for PWR On Time option value.

### 4.1.6 Auto Power Off

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

The default for this option is Disabled. 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.

### 4.1.7 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"
  - "KDC20 is DISCONNECTED from HOST"
  - "Bluetooth power is ON"

### 4.1.8 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.

### 4.1.9 PowerOFF Msg

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

### 4.1.10 MAC Address

User can verify KDC Bluetooth MAC Address.

### 4.1.11 FW Version

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

### 4.1.12 Wakeup Nulls

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

### 4.1.13 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 the auto-lock time. The auto-lock time would be set as 0, 1, 2, 3, 4, 5, 10, 15 minutes. 0 means iPhone/iPad/iPod touch never enters sleep mode.

### 4.1.14 HID Keyboard

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

### 4.1.15 HID Initial and Inter-Character Delay

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

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

### 4.1.16 Control character transmission in HID mode

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

- Disabled → Transmit the original control character
- Alt+Numpad → Transmit Alt+ ASCII value from Numpad.
- ^+Character → Control characters would be substituted as following table.
- Replacement to | → Control characters would be substituted as "|".

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	^\		

#### 4.1.17 Function key transmission in HID mode

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

#### 4.1.18 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 (DisconnectBTN disabled)	DOWN Key (DisconnectBTN enabled)
SPP	Do nothing	Do nothing	Release BT connection
HID iOS	Reconnect	Soft Keyboard Toggle if pressing less than 3sec,	Soft Keyboard Toggle if pressing less than 3sec, Release BT connection
iPhone	Reconnect	Do nothing	Release BT connection
SPP 2.0	Do nothing	Do nothing	Release BT connection
HID normal	Reconnect	Do nothing	Release BT connection

## 4.2 Bluetooth Service

### 4.2.1 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 for Bluetooth devices increases power consumption. 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.

### 4.2.2 Pairing

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

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

#### Note:

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

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

1. 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 is 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.

### 4.2.3 Discovering

KDC20 starts to search neighboring *Bluetooth* devices if this Discovering menu is executed. It would take about 30 seconds to finish search and list available neighboring *Bluetooth* devices. User may enter corresponding Bluetooth MAC address in KTSync Bluetooth menu instead of searching neighborhood *Bluetooth* devices.

### 4.2.4 Connect To

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

#### Note:

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

### 4.2.5 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. This option is available when KDC MFi Mode option is disabled.

## 5. Synchronization

When barcode data is collected, it must be uploaded to your application. KTSync®, which is bundled with the KDC, is a 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 be uploaded directly into your application as if the data were being entered manually with a keyboard.
- Application Generation - Allows users to create custom applications or download predefined applications such as Master-Slave, Pick/Bin, DB Lookup and Inventory.

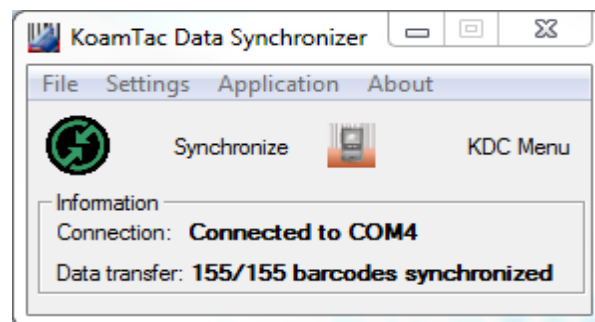
(Application Generation function is not available for KDC20. Only Keyboard wedging feature is available for KDC20.)

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.



KDC20

*Figure 14 - KTSync® Synchronizer Menu*

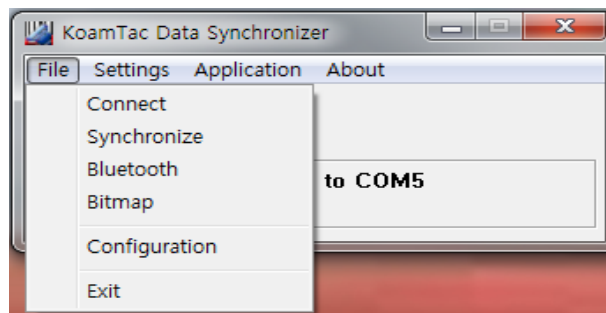
**File Menu**

- **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:** User can register MAC address to be directly connected by KDC20.
- **Configuration:** This option allows users to set different KDCs with same settings by exporting and importing settings from one KDC to the other.
- **Exit:** This option ends the KTSync program. You must re-run KTSync before you can synchronize data on the KDC.

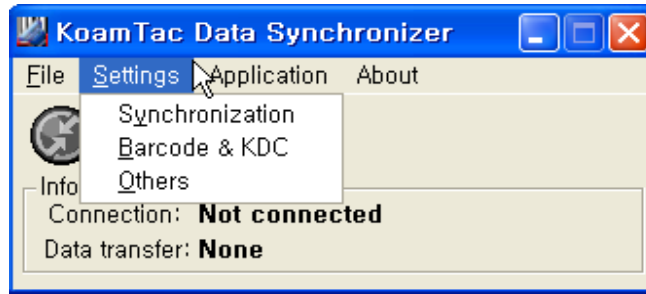


*Figure 15 – File Menu*

**Settings Menu**

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





Application Menu

Figure 16 – Setting 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.

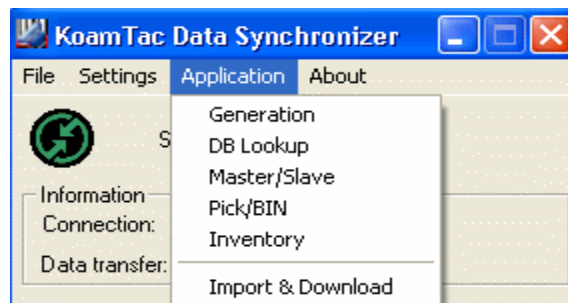


Figure 17 – Application Menu

About Menu - KTSync® - Version Information



Figure 18 – About Menu

## 5.2 File Menu

### 5.2.1 Connect to KDC

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

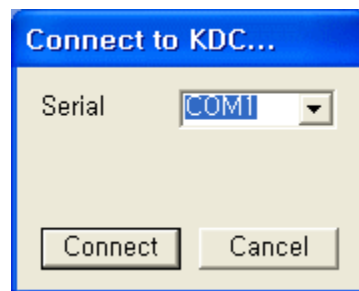


Figure 19 - COM Port Selection for KDC

- 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

### 5.2.2 Synchronize

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

### 5.2.3 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.

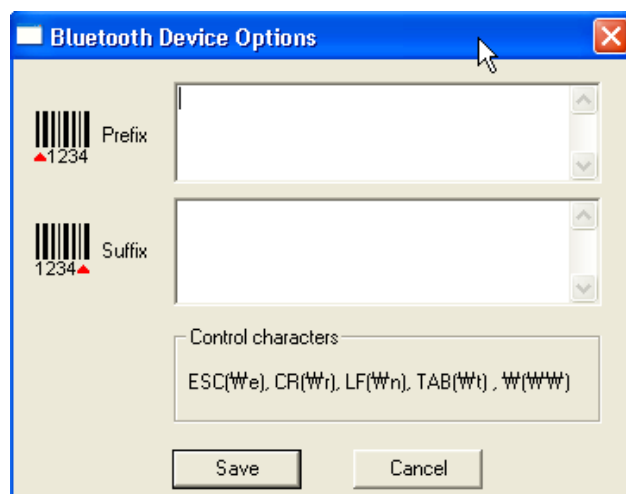
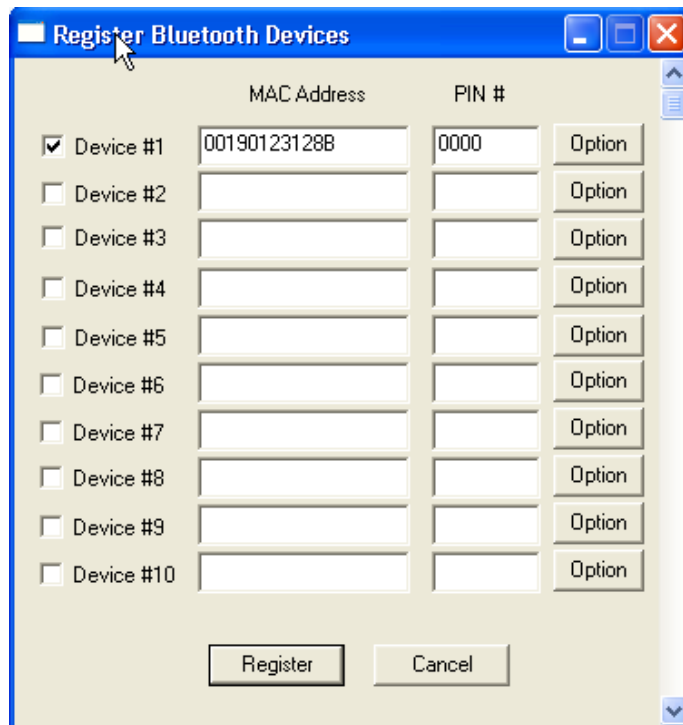
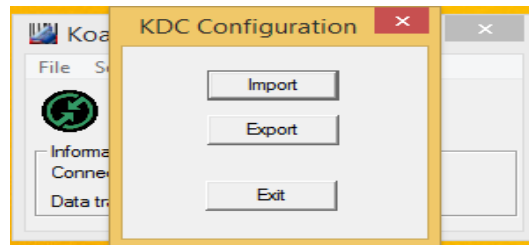


Figure 20 - Bluetooth Device Registry

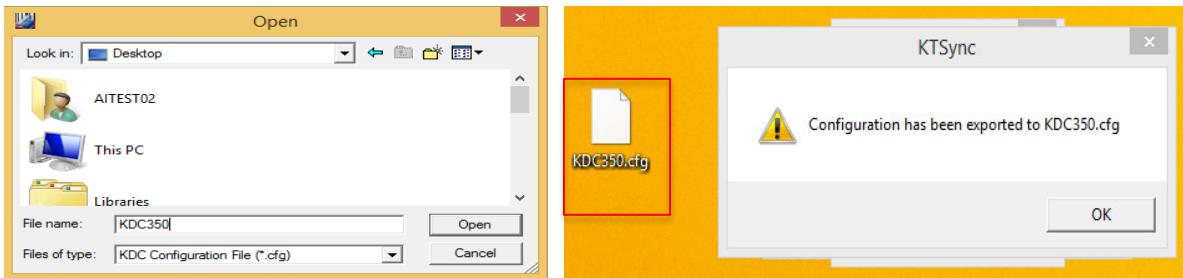
### 5.2.4 Configuration

This menu is useful for the users who need to configure different KDCs with same settings. In this menu, you can export settings from a KDC to your computer and import it to other KDCs.

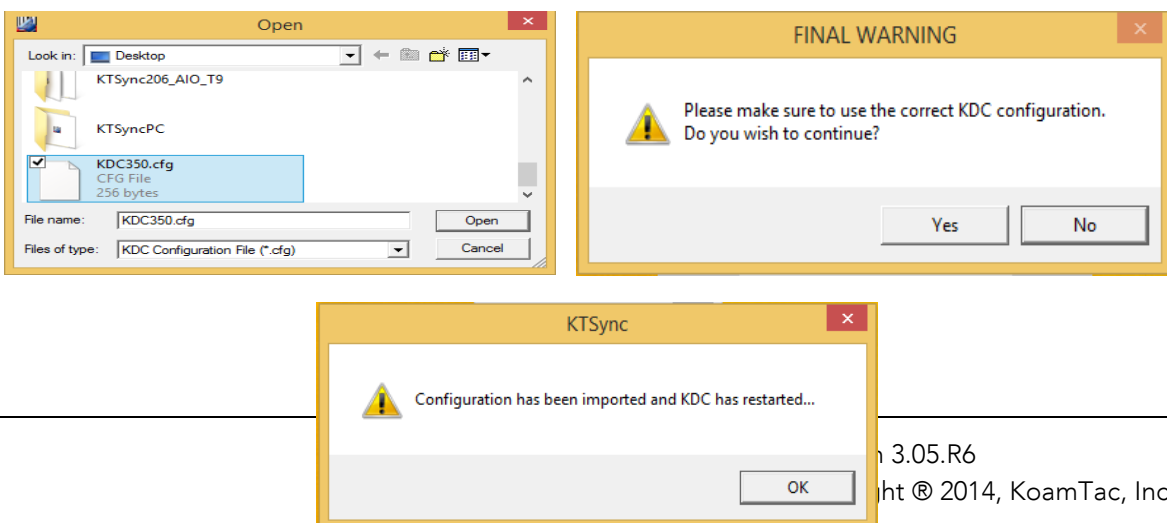
When you select **Configuration** in File menu, you will need to choose either **Export** or **Import**. First, select Export. You name the settings file, press **Open**, and it is exported to your computer. Second, connect a different KDC to your computer and import the settings file to the KDC by selecting **Import** in the Configuration menu. Once configuration has been finished, KDC will restart.



● Export



● Import



### 5.3 Synchronization Figure 21 – Configuration

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+.

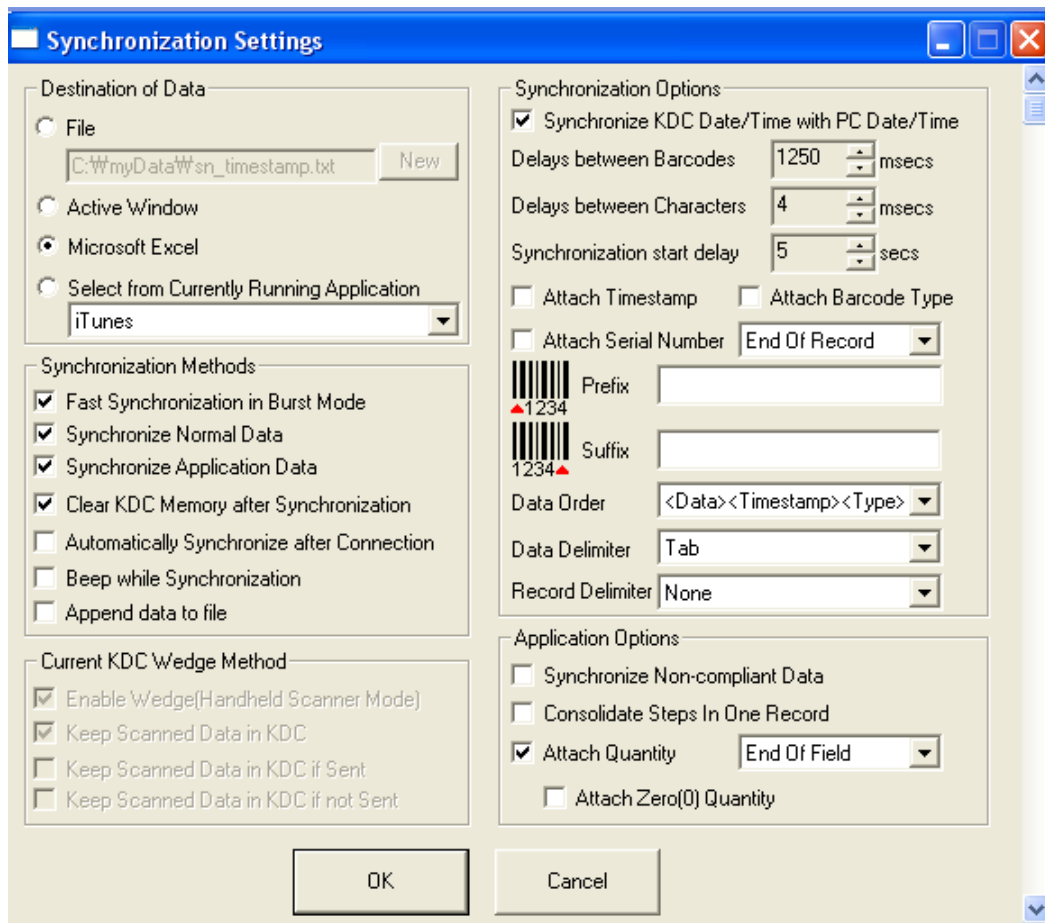


Figure 22 - KTSync® Synchronization Settings

### 5.3.1 Destination of Data

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

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

#### Note:

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

### 5.3.2 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 KDC20 can store a total of 10,240 barcodes or 60KB (86 version)/160KB (85 version) of barcode data.

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

### *Automatically Synchronize after Connection*

This option lets you automatically synchronize collected data to your computer immediately when the KDC is connected to the host.

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

### *Beep while Synchronization*

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

### *Append data to File*

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

## 5.3.3 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.

### 5.3.4 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>

### 5.3.5 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 [11. Appendix A – Barcode & Scan Options](#) for proper barcode settings for your application.

**Note:**

- You must configure barcode and scan options properly for optimal KDC performance

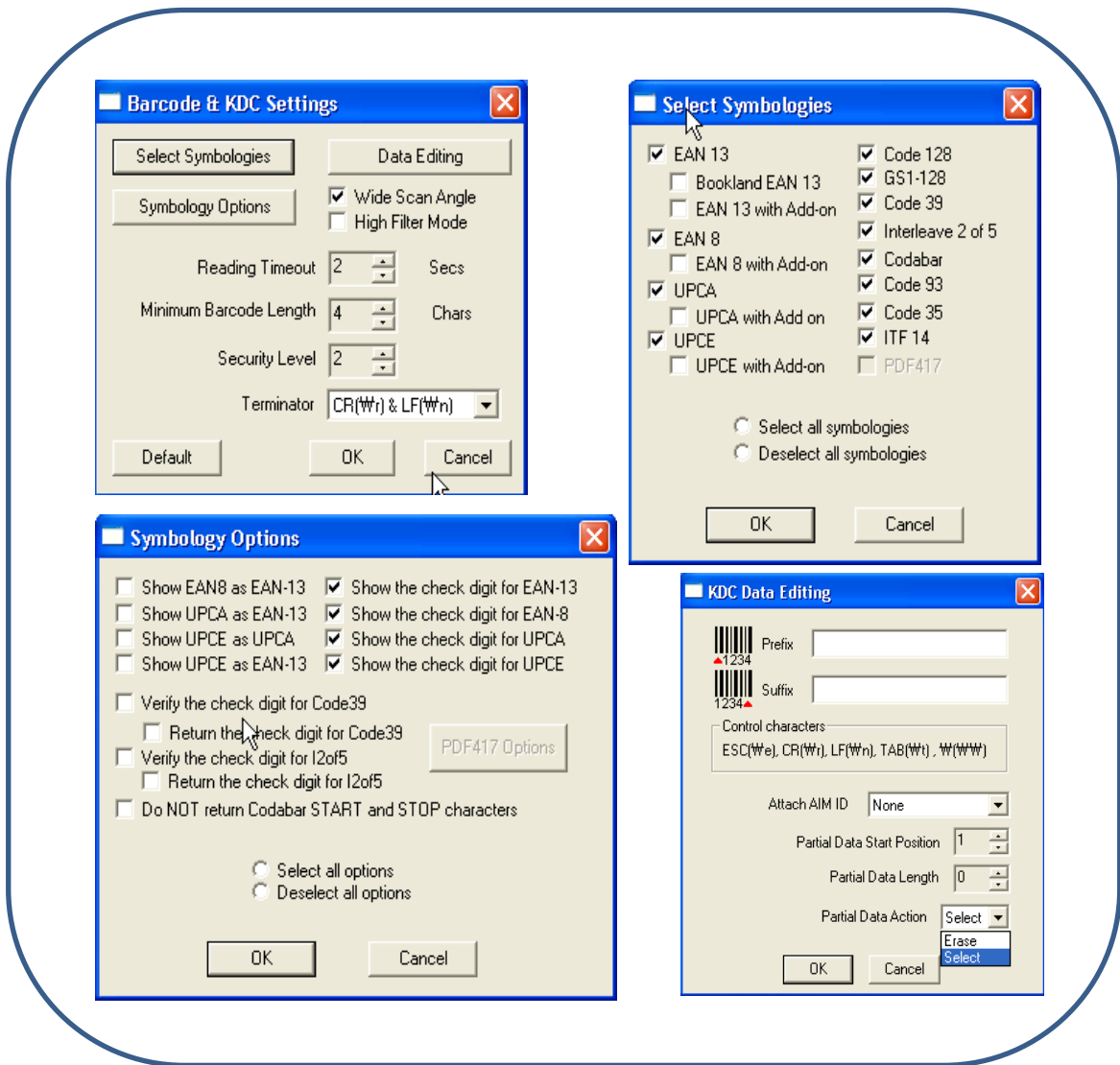


Figure 23 - Barcode & KDC Settings, Symbologies, Data Editing and Scan Options

### 5.4.1 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.

### 5.4.2 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 Other Settings

Other options under the Settings menu allow 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.

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.

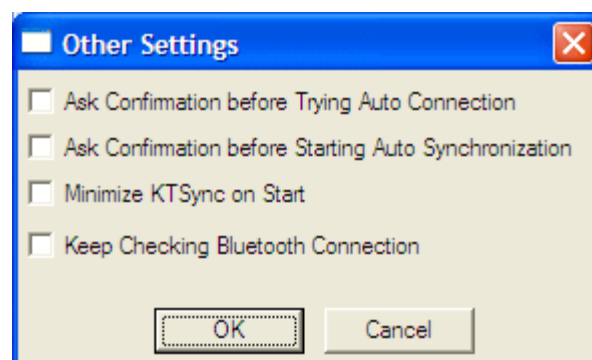


Figure 24 - KTSync® Confirmation Settings

## 5.6 KDC Menu in KTSync

After connecting KDC 20 to PC with a USB cable, run KTSync in your PC and you will see **KDC Menu** on the right side of KTSync window. Click **KDC Menu**, and you can configure your KDC20 in KDC Menu window as below.

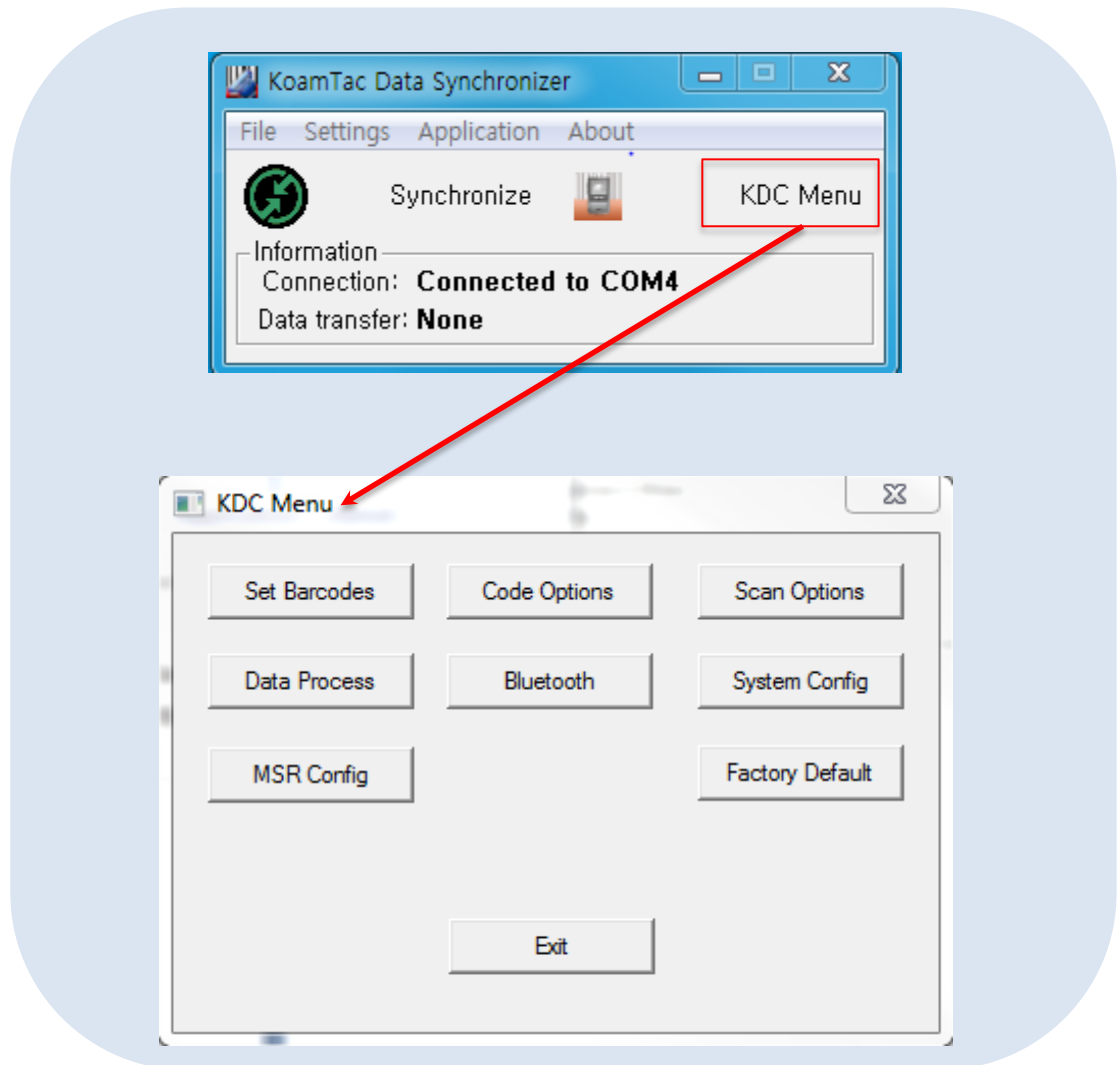


Figure 25 – KDC Menu in KTSync (KDC20)

## 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.

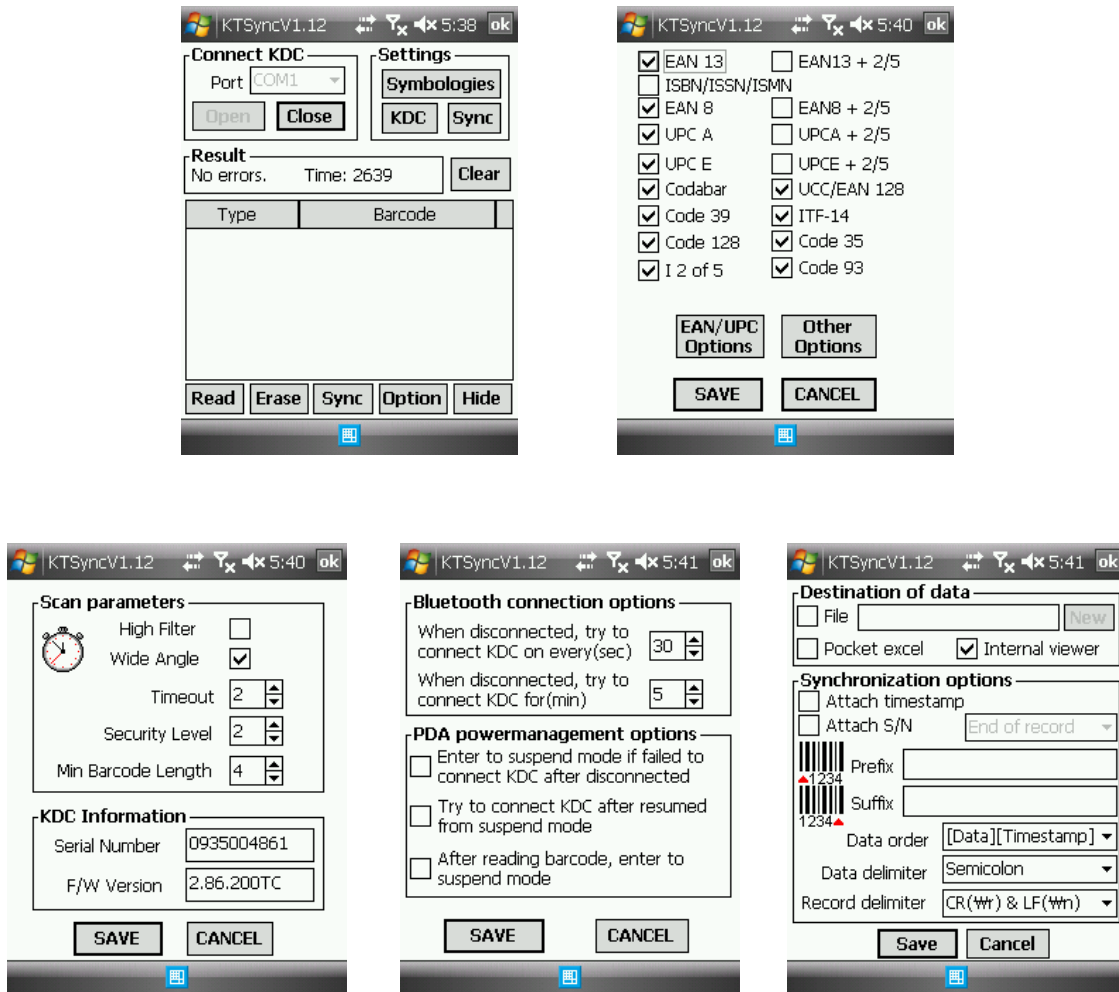


Figure 26 – Mobile pKTSync

## 5.8 Android aKTSync

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

### Note:

- *aKTSync only supports Android devices with 2.1+ OS version and that are compatible with BluetoothChat application.*
- *KDC with Bluetooth Spec2.1+EDR doesn't prompt Pin code entry menu*

### 5.8.1 KDC and Android Pairing

1. Pairing
  - Select **SPP** Bluetooth profile from KDC **ConnectDevice** submenu in **BT Config** menu.
  - Search KDCxxx from Android and pairing two devices.
  - KDCxxx PIN code is "0000" if SPP2.0 is selected.
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.

### 5.8.2 Launch KTSync

1. Download and install aKTSync from the Android Play Store.  
[http://www.androidzoom.com/android\\_applications/productivity/ktsync\\_luxv.html](http://www.androidzoom.com/android_applications/productivity/ktsync_luxv.html)
2. Change KDC Bluetooth **ConnectDevice** option to *SPP*
3. Execute Android *Bluetooth* device scan option and KDC *Bluetooth* pairing option
  - A. Execute KDC *Bluetooth Pairing* option
  - B. Launch **Settings** on the Android device
  - C. Select **Wireless and Networks**
  - D. Click on **Bluetooth Settings**
  - E. Click on **Scan devices**

- F. The Android device will display the KDC model and 6 digits of the serial number.
- 4. Press the KDC list entry, enter "0000" PIN code and press **OK**.
- 5. When paired, the Android device will display "Paired but not connected".
- 6. Launch aKTSync program.
  - A. Press menu key and select the **Connect** option on the top left.
  - B. From the list of paired devices, choose the KDC to use.
  - C. On the top menu bar of aKTSync, you will see a message "connecting", and 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.

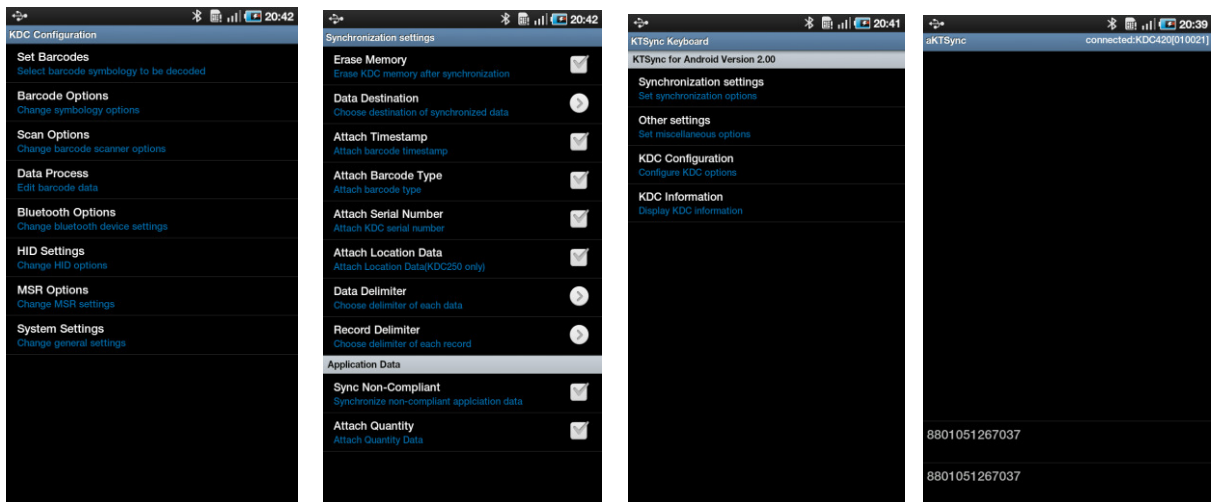


Figure 27 – Android aKTSync

### 5.8.3 Keyboard Wedge

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



## 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.

1. The KDC supports **SPP** and **iPhone** Bluetooth profiles.
2. The iPhone/iPad/iPod touch should use **iPhone** Bluetooth profiles. **iPhone** is the default profile of KDCi models.
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:

- *Users have to disable MFi option in **System > MFi** menu to use HID Bluetooth profiles.*
- *Users have to **RESET** the iPhone/iPad/iPod touch to change "HID to iPhone mode" or "vice versa" after removing previous KDC connection.*
- *KDC with Bluetooth Spec2.1+EDR doesn't prompt Pin code entry menu.*

### 5.9.1 KDC20i connection using iPhone mode

1. Download and install iKTSync from the Apple App Store.  
<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. The message "Connecting to iPhone/iPod touch device name" will be displayed
  - d. iPhone/iPad/iPod touch will ask for the PIN number.
  - f. Please enter "0000" and hit "connect" icon
  - g. "iPhone Connected" message will be displayed
7. Launch KTSync and configure Settings

### 5.9.2 iKTSync Settings

iKTSync provides following Settings menu.

- Synchronization - User can configure Synchronization options such as destination of data, data formation and delimiters.

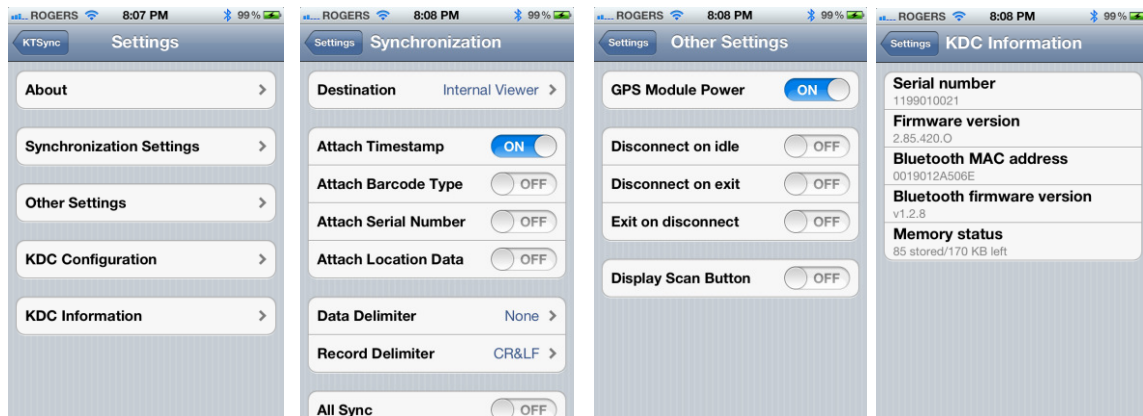


Figure 28 – iPad/iPhone/iPod touch KTSync

### 5.9.3 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 data as an email attachment, choose **Email Attachment** as destination and enter in the email address, subject and body message that you want to send. 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 wherever the cursor is flashing.

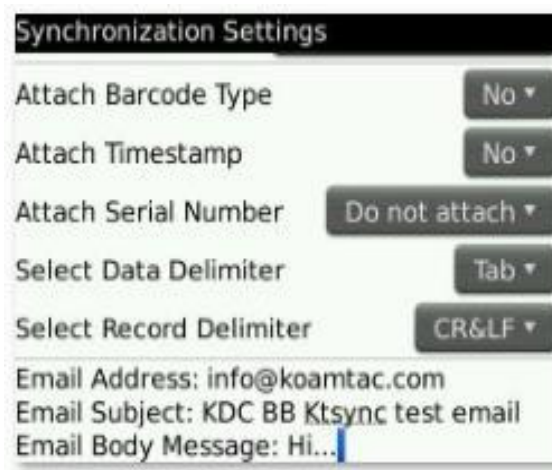
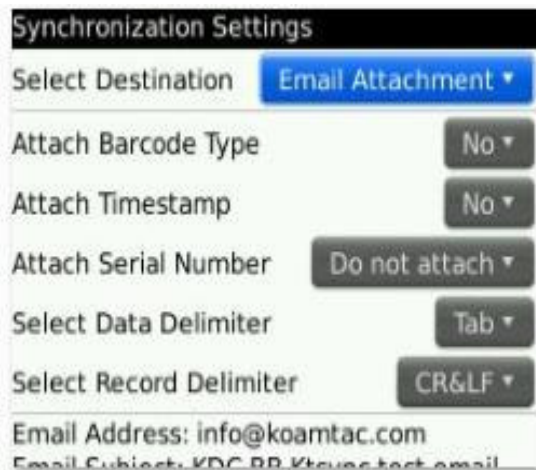
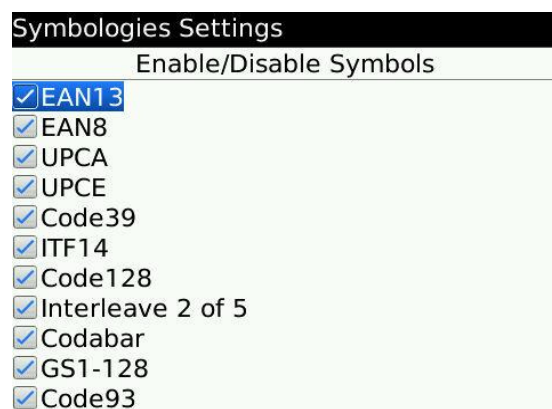


Figure 29 – Blackberry bKTSync

## 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.

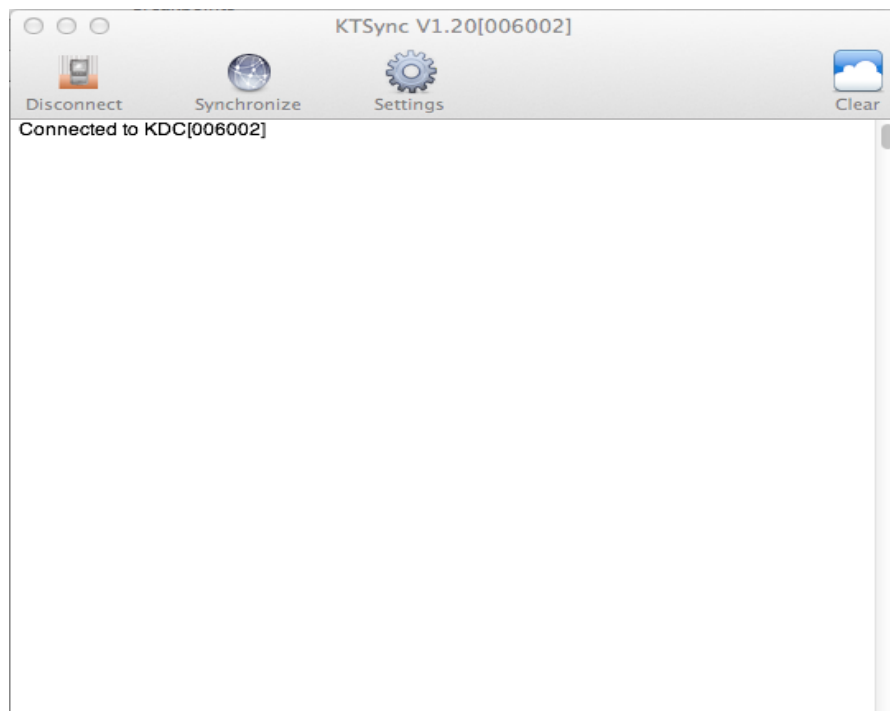
### Note:

- *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.*
- *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.

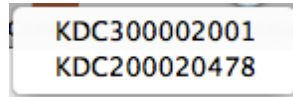
User will see the following initial KTSync screen upon launching the program. KTSync will connect automatically if KDC is plugged on USB port or KDC is paired.



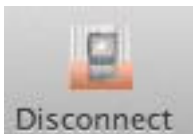
### 5.11.1 Connect Button



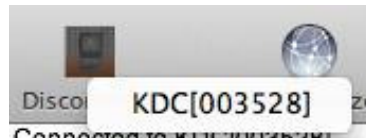
User can connect the Mac with the KDC that is paired or plugged into the USB port by clicking the Connect button. The following screen will be displayed when this button is pressed and KTSync will start to connect to the selected KDC.



### 5.11.2 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.



### 5.11.3 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.

### 5.11.4 Clear Button

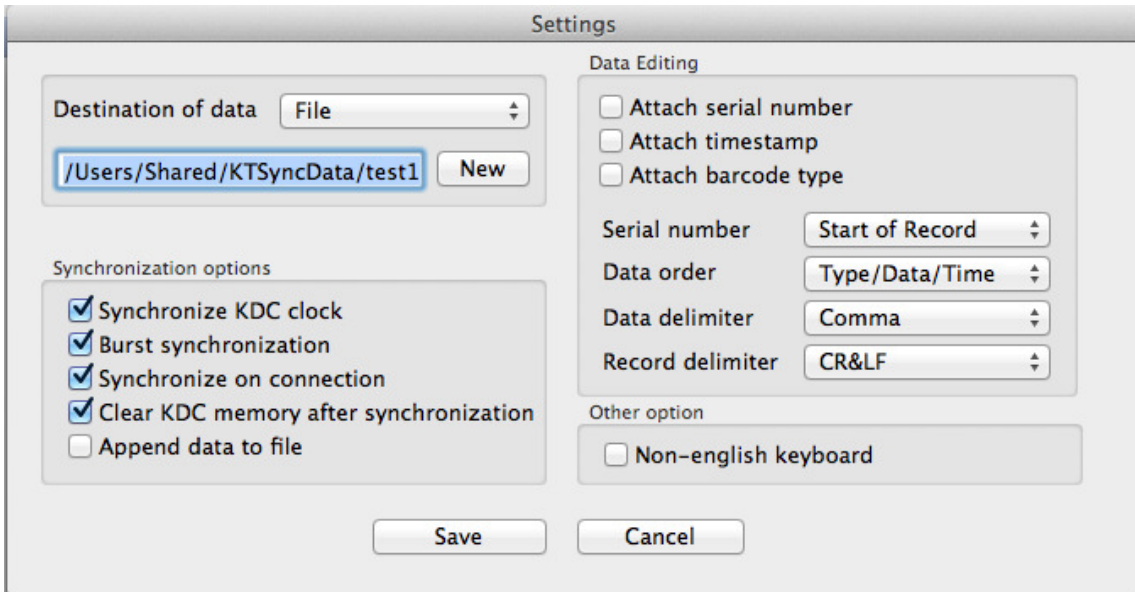


User may press this button to clear the KTSync internal viewer.

### 5.11.5 Settings Button

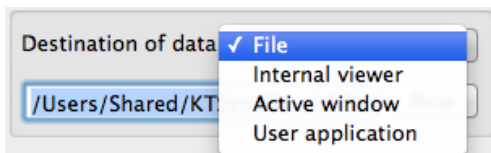


User can configure synchronization options on the following screen by pressing the Settings button.



### 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.

## Synchronization Options

- 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.

## Data Edition

- 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 select one of **None**, **CR**, **LF**, **TAB**, and **CR&LF** as the record delimiter. The **CR&LF** is selected by default and can't be changed.

### Other Options

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

## 6.TROUBLESHOOTING

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

Table 4 - Troubleshooting Techniques

## 7. WARRANTY

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### LIMITED WARRANTY AND DISCLAIMERS

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

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

#### Serial Number

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

#### Warranty/Warranty Period/Liability

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

#### Warranty Coverage and Procedure

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

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

## 8. Contact Information

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CORPORATE HEADQUARTERS

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Princeton, NJ 08540, USA

Phone: 609-256-4700, FAX: 609-228-4373

Email: [support@koamtac.com](mailto:support@koamtac.com)

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

## 9.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.

### 9.1 Symbologies

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

	<i>KDC20/100/200/250/350L/ 410/415</i>	<i>KDC30/300/350C/420/425/450</i>
<i>1D Barcodes</i>	EAN13, EAN8, UPCA, UPCE, Bookland EAN13 with Addon, EAN8 with Add-on, UPCA with Add-on, UPCE with Add-on, Interleave 2 of 5, ITF14, Code128, Codabar, GS1-128, Code39, Code93, & Code35	Codabar, Code11, Code32, Code39, Code128, EAN8, EAN13, GS1-128, I2of5, MSI, Plessey, PosiCode, GS1 DATABAR OMNI, GS1 Limited, GS1 Expanded, S2of5IA, S2of5ID, TLC39, Telepen, Trioptic, UPCA, & UPCE
<i>2D Barcodes</i>	<i>N/A</i>	AztecCode, AztecRunes, CodablockF, Code 16K, Code49, DataMatrix, MaxiCode, MicroPDF, PDF417, & QRCode and HanXin Code
<i>Postal Barcodes</i>	<i>N/A</i>	AusPost, CanadaPost, ChinaPost, JapanPost, KoreaPost, KixPost, Planet Code, Postnet (US), & UKPost
<i>OCR Fonts</i>	<i>N/A</i>	OCR-A, OCR-B, OCRUSCurrency, OCRMICRE13B, & OCRSEMIFONT

*Table 5 - Symbologies Supported by KDC*

### 9.1.1 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.

### 9.1.2 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 6 - 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_Return CheckDigit	EAN13_Return CheckDigit
1234567012	False	True	N/A
123456712		False	
00000123456712	True	N/A	false
000001234567012			true

Table 7 - 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.

## 9.2 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.

### 9.2.1 Reverse Direction

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

### 9.2.2 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 8 - Symbology Conversion

### 9.2.3 Verification of Optional "Check Digit"

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

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

Table 9 - Verification of Optional "Check Digit"



### 9.2.4 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	l2of5
ReturnCheckDigit	<b>Yes</b>	<b>Yes</b>	<b>Yes</b>	<b>Yes</b>	<b>Yes</b>	<b>Yes</b>
EAN13_ReturnCheckDigit	<b>Yes</b>	No effect	No effect	No effect	No effect	No effect
EAN8_ReturnCheckDigit	No effect	<b>Yes</b>	No effect	No effect	No effect	No effect
UPCA_ReturnCheckDigit	No effect	No effect	<b>Yes</b>	No effect	No effect	No effect
UPCE_ReturnCheckDigit	No effect	No effect	No effect	<b>Yes</b>	No effect	No effect
Code39_ReturnCheckDigit	No effect	No effect	No effect	No effect	<b>Yes</b>	No effect
l2of5_ReturnCheckDigit	No effect	No effect	No effect	No effect	No effect	<b>Yes</b>

Table 10 - Transmission of "Check Digit"

### 9.2.5 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 11 - Resolution of Inconsistencies*

## 9.3 Miscellaneous Barcode Information

### 9.3.1 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.

### 9.3.2 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.

### 9.3.3 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.

### 9.3.4 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.*

### 9.3.5 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.

## 10. APPENDIX B – FAQ

---

### 10.1 Symbology

**Q: What barcode symbologies are supported by the KDC20?**

A: The KDC20 support 1D barcode only.

<b><u>1D Barcodes</u></b>
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 12 – Symbologies supported by KDC20*

**Q: What interface ports are supported by the KDC20?**

A: KDC20 have one Swing-out Type A USB port which supports USB to Serial protocol and Bluetooth with HID, SPP and MFi *Bluetooth* profiles.

## 10.2 Battery

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

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

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

A: It takes about 2 hours to charge the KDC20.

**Q: How many barcodes can a fully charged KDC20 scan?**

A: If user scans a barcode every 5 seconds, KDC20 scans more than 3,500 barcodes.

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

A: KDC20 lasts more than 48 hours while connected in Bluetooth.

**Q: Can I replace the KDC20 battery?**

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

## 10.3 Memory

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

A: KDC20 has 160KB memory. It can store maximum 10,240 barcodes.

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

A: Yes. KTSync<sup>®</sup> is keyboard wedging program bundled with the KDC20 which supports host devices running on Android<sup>®</sup>, iPhone/iPad/iPod touch, Blackberry<sup>®</sup>, Windows<sup>®</sup> XP/Vista/7/Mobile5.0+.

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

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

## 10.4 Programming

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

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

1. KDC supports, at most, three step data collection processes including the ability to perform various data functionality features.
2. KDC's database lookup function provides enhanced data processes enabling the

KDC to display database results with or without scanned barcode data.

3. KDC can display a message from Host enabling two way communications and a messaging application.

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

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

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

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

# 11. Appendix C - Special Barcodes

---

## 11.1 Set Symbolologies

Enable EAN13



Disable EAN13



Enable EAN8



Disable EAN8



Enable UPCA



Disable UPCA



Enable UPCE



Disable UPCE



Enable Code39



Disable Code39



Enable ITF14

Disable ITF14





Enable Code128



Enable I2 of 5



Enable Codabar



Enable EAN128



Enable Code93



Enable Code35



Disable Code128



Disable I2 of 5



Disable Codabar



Disable EAN128



Disable Code93



Disable Code35



Enable Bookland EAN



Disable Bookland EAN



Enable EAN13 with Addon



Disable EAN13 with Addon



Enable EAN8 with Addon



Disable EAN8 with Addon



Enable UPCA with Addon



Disable UPCA with Addon



Enable UPCE with Addon



Disable UPCE with Addon



## 11.2 Barcode Options

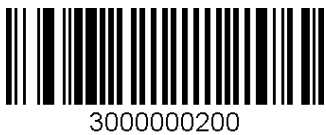
Codabar - do NOT transmit start/stop



Codabar - transmit start/stop



Convert UPCE to UPCA



Do NOT convert UPCE to UPCA



Convert EAN8 to EAN13



Do NOT Return Check Digit



Convert UPCE to EAN13



Do NOT Verify Check Digit



Return Check Digit



Do NOT convert EAN8 to EAN13



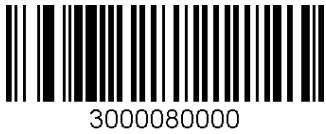
Verify Check Digit



Do NOT convert UPCE to EAN13



Convert UPCA to EAN13



Do NOT Convert UPCA to EAN13



Verify check digit for I2of5



Do NOT verify check digit for I2of5



Verify check digit for Code39



Do NOT verify check digit for Code39



Return check digit for I2of5



Do NOT return check digit for I2of5



Return check digit for Code39



Do NOT return check digit for Code39



Return check digit for UPCE



Do NOT return check digit for UPCE



Return check digit for UPCA



Do NOT return check digit for UPCA



Return check digit for EAN8



Do NOT return check digit for EAN8



Return check digit for EAN13



Do NOT return check digit for EAN13



## 11.3 Delete Last Scanned Barcode

Delete Last Scanned Barcode



## 11.4 Scan Options

Wide scan angle



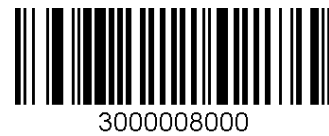
Narrow scan angle



Normal filter mode



High filter mode



Auto Trigger Enable



Auto Trigger Disable



Continuous



Short



Medium



Long



Extra Long



## 11.5 Scan Timeout

Timeout = 500msec



Timeout = 1sec



Timeout = 2sec



Timeout = 3sec



Timeout = 4sec



Timeout = 5sec



Timeout = 6sec



Timeout = 7sec



Timeout = 8sec



Timeout = 9sec



Timeout = 10sec





## 11.6 Minimum Barcode Length

Minimum Length = 2



Minimum Length = 3



Minimum Length = 4



Minimum Length = 5



Minimum Length = 6



Minimum Length = 7



Minimum Length = 8



Minimum Length = 9



Minimum Length = 10



Minimum Length = 11



Minimum Length = 12



Minimum Length = 13



Minimum Length = 14



Minimum Length = 15



Minimum Length = 16



Minimum Length = 17



Minimum Length = 18



Minimum Length = 19



Minimum Length = 20



014

Minimum Length = 21



015

Minimum Length = 22



016

Minimum Length = 23



017

Minimum Length = 24



018

Minimum Length = 25



019

Minimum Length = 26



01A

Minimum Length = 27



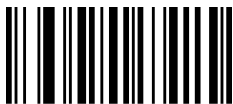
01B

Minimum Length = 28



01C

Minimum Length = 29



01D

Minimum Length = 30



01E

Minimum Length = 31



01F

Minimum Length = 32



020

Minimum Length = 33



021

Minimum Length = 34



022

Minimum Length = 35



023

Minimum Length = 36



024

## 11.7 Security Level

Security level = 1



41

Security level = 2



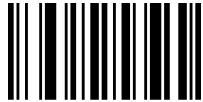
42

Security level = 3



43

Security level = 4



44

## 11.8 Data Process - Wedge/Store & Enter Key

Wedge Only



82000

Wedge & Store



82001

Store Only



82002

Wedge & Store if Sent



82003

Wedge & Store if Not Sent



82004

Enable Enter Key



8E001

Disable Enter Key



8E000

## 11.9 Data Process – Data Edit

Prefix Enter Start



83000

Suffix Enter Start



83001

Prefix/Suffix Enter Finish



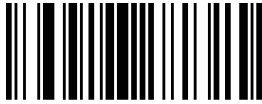
83002

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

## 11.10 Data Process - Data Format – Handshake

Data format - Barcode only



84001

Data format - Packet data



84010

Enable Handshake



86001

Disable Handshake



86010

## 11.11 Data Process - Termination Character & Duplicate Check

None



CR



LF



CR+LF



Tab



Check Duplicate Enabled



Check Duplicate Disabled



## 11.12 Bluetooth

Enable Bluetooth Power



Disable Bluetooth Power



Enter Pairing Mode



Discovering Enable



Discovering Disable



Connect To Last



Connecting to



Disconnect



HID Sync



Bluetooth Device type SPP



Bluetooth Device type HID iOS





Bluetooth Device type IPHONE



6A002

Bluetooth Device type SPP2.0



6A003

Bluetooth Device type HID Normal



6A004

Enable Auto Connect



62001

Disable Auto Connect



62010

Enable Auto Reconnect



6R001

Disable Auto Reconnect



6R010

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



68010

Enable Power Off Msg



Disable Power Off Msg



BT MAC Address



BT FW Version



Enable Wakeup Nulls



Disable Wakeup Nulls



Confirm To Send Enabled



Confirm To Send Disabled



BT Toggle Enable



BT Toggle Disable



Enable BT Disconnect Button



Disable BT Disconnect Button



## 11.13 Bluetooth Auto Power On Time

Auto Power On Time Disabled



Auto Power On Time 1sec



Auto Power On Time 2sec



Auto Power On Time 3sec



Auto Power On Time 4sec



Auto Power On Time 5sec



Auto Power On Time 6sec



Auto Power On Time 7sec



Auto Power On Time 8sec



Auto Power On Time 9sec



Auto Power On Time 10sec



## 11.14 Bluetooth PWR Off Time

1min



2min



3min



4min



5min



6min



7min



8min



9min



10min



11min



12min



13min



14min



15min



16min



17min



18min



19min



20min



21min



22min



23min



24min



25min



26min



27min



6901B

28min



6901C

29min



6901D

30min



6901E

## 11.15 Auto lock Time

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

## 11.16 HID Keyboard layout

US



6F000

German



6F001

French



6F002

Italian



6F003

Spanish



6F004



## 11.17 HID Initial Delay

Disabled



1 second



2 seconds



3 seconds



5 seconds



10 seconds



## 11.18 HID Character Delay

Disabled



H1000

10 msec



H100A

20 msec



H1014

30 msec



H101E

50 msec



H1032

100 msec



H1064

## 11.19 HID Control Character

Disabled



H2000

Alt+Numpad



H2001

^+Character



H2002

Replace with '|'



H2003

## 11.20 System

0.5M / 3.5M



1M / 3M



2M / 2M



3M / 1M



4M / 0M



Confirm Memory size change



Memory Status



Reset Memory



Erase Memory



Reset App data



Reset BT Registry



SPP Sync



Auto Erase Enable



Auto Erase Disable



Date/Time



Battery



Version



Button Lock



Button Unlock



Enable Beep Sound



Disable Beep Sound



High Beep Volume



Low Beep Volume



Enable Auto Menu Exit



Disable Auto Menu Exit



MFi Mode Enable



6M001

MFi Mode Disable



6M010

Vibrator Enable



5G001

Vibrator Disable



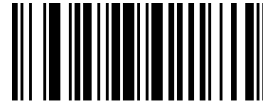
5G010

Enable Port Status



58101

Disable Port Status



58100

Time & Battery



58200

Type & Time



58201

Type & Battery



58202

Memory 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

## 11.21 Sleep Timeout

Disable



1sec



2sec



3sec



4sec



5sec



10sec



20sec



30sec



1min



2min



5min





10min



51258

## 11.22 ETC

Reverse Direction Enable



Return check digit Enable



Verify check digit Enable



Reverse Direction Disable



Return check digit Disable



Verify check digit Disable



## 11.23 Function

F1



F2



F3



F4



F5



F6



F7



F8



F9



F10



F11



F12



## 11.24 Number

0



1



2



3



4



5



6



7



8



9



## 11.25 Lower Case Alphabet

a



b



c



d



e



f



g



h



i



j



k



l



m



n



o



p



q



r



s



t



u



v



w



x



y



z



## 11.26 Upper Case Alphabet

A



B



C



D



E



F



G



H



I



J



K



L



M



N



O



P



Q



R



S



T



U



V



W



X



Y



Z





## 11.27 Control Character

BS



7108

TAB



7109

LF



710A

VT



710B

CR



710D

ESC



711B

Space



7120

DEL



717F

Shift + Tab



7111

## 11.28 Symbol Character

!



“



#



\$



%



&



,



(



)



\*



+



,







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.

## 11.29 Auto Power Off Timeout

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

## 11.30 USB DISK (M Model Only)

USB Serial Mode



USB Disk Mode



Format USB Disk



Data Format - Data



Data Format – Data,Time



Data Format – Data,Type



Data Format – Data,Time,Type

