KDC300

User Manual

Rev. 1.73

KoamTac
A New Wave in Auto ID

Copyright, License and Warning page

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Follow all warnings and instructions marked on manual and units
Use only the power source specified in this manual or marked on the units
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 RF EXPOSURE INFORMATION.
A minimum separation distance of 7.9 inches (20cm) must be maintained between the user and the external antenna of repeater to satisfy FCC RF exposure requirements. For more information about RF exposure, please visit the FCC
CAUTION
Changes or modifications not expressly approved by the manufacturer responsible for compliance could void the user's authority to operate the equipment
WARNING
This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:
(1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

INFORMATION TO USER:
This equipment has been tested and found to comply with the limit of a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation; if this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
1. Reorient / Relocate the receiving antenna.
2. Increase the separation between the equipment and receiver.
3. Connect the equipment into an outlet on a circuit difference from that to which the receiver is connected.
4. Consult the dealer or an experienced radio/TV technician for help

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

Table of Contents

1. KDC300 Introduction

KoamTac data collector KDC300 is a compact, light and powerful reader with a rechargeable battery, OLED display, large memory and connections to PC, PDA and cell phone using Bluetooth and Serial/USB cable.

KDC300 is well suited for a variety of portable applications. It can be used as an accessory to a PDA or cell phone as well as an independent data collector.

The key features of KDC300 are

- **Bright OLED display**

- **Bluetooth V2.0+EDR, Class2, SPP (Serial Port Profile)**

- **Built in ultra mini USB connector**

- **Rechargeable Li-Ion battery with separate installation space for easy replacement**

- **Powered by Honeywell Adpatus$^®$ Technology**

- **Auto uploading scanned data to the host device upon connecting either USB-serial or generic serial cable to one of USB connectors**

- **Large data memory**

- **Bundled synchronization and wedging software allows PC and PDA programs to accept scanned barcodes as if the barcode had been entered from the keyboard as well as to download collected barcodes from KDC300.**

KDC300 also provides seamless integration of barcode capability into your application by providing a user friendly data synchronization software and application software development kit.

2. Installation and Operation

2.1 Unpacking

The standard KDC300 package[1] contains:

- One KDC300,
- One USB cable,
- One Neck strap and
- One CD containing the software and user manual.

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[1]The package content may vary by region.

2.2 Installation

Prior to installing the included software on your PC, verify that your system meets the minimum system requirements.

1. Microsoft Windows operating system: XP or Vista

2. Free space on hard drive of 512 MB.

3. Accessible USB port for connecting KDC300 to your computer

4. 256M byte memory or larger.

Affix the neck strap to KDC300

Use the included neck strap properly to avoid dropping the unit.

Fit the small thin cord of the strap around the pillar of the KDC300 and loop the thick cord of the strap through the thin loop in order to attach the neck strap.

Wear the neck strap when carrying the product to avoid dropping the unit.

Do not swing the product around on the strap, since contact with another object may damage the unit and cause it to malfunction.

Copy the Provided Programs into your PC

Create a directory for KTSync program.

Copy the "KTSync.exe" program from the CD to the new directory on your hard drive.

It is recommended that you also copy "KTReader.inf" and "KDC300.User.Manual.pdf" into the same directory.

Connect KDC300 USB connector to your PC

Connect KDC300 to PC USB port. Use the included USB extension cable if needed.

The "New hardware found" message will pop up.

Follow the prompts and select the option to search for the best driver for your device.

Please select the directory containing the "KTReader.inf" file and continue hardware installation procedure.

A message will pop-up that new hardware is found and recognized as a serial device.

Charge the battery

The battery is charged by connecting KDC300 to a USB port. It takes about four hours to fully charge the battery. The front panel LED will illuminate in orange during the battery charge. The front panel LED will illuminate in green when the battery is fully charged.

Configure KDC300 options and system settings

User can access menu selection mode by pushing both buttons on the left side of the KDC300 simultaneously.

- Please set KDC300 options properly for the best performance.
- Please refer KDC300 menus section for the details on options.
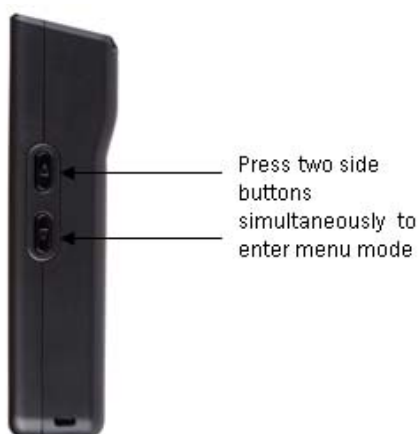
Note
User also can configure KDC300 from KTSync program as well as reading special barcodes. Please refer to Chapter 4 Synchronization and Appendix C for the detailed description of each option

2.3 Location of buttons

Green/Red/
Orange LED

OLED Display

Upper Menu Button
(on side)

Scan Button

Lower Menu Button
(on side)

Ultra mini USB port
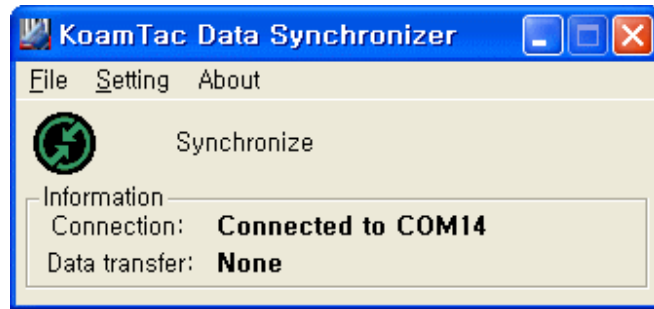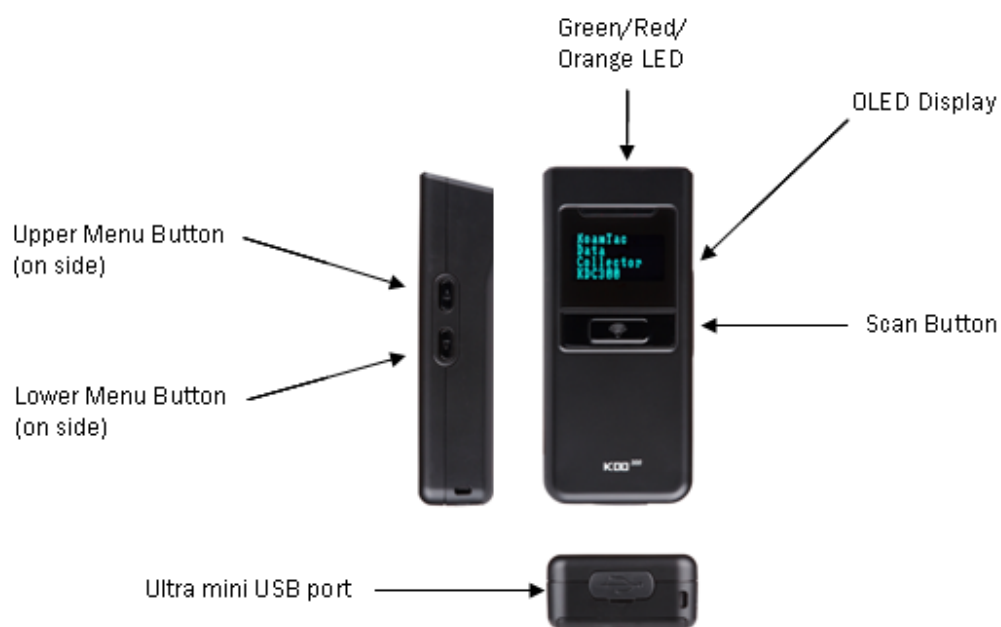
2.4 Basic Operation

Reading barcodes

Point KDC300 to the barcode and press the scan button.

A high beeper tone will be heard and the front panel LED will illuminate in green upon a successful scan.

A low beeper tone will be heard and the front panel LED will illuminate in red upon an unsuccessful scan.

The scanned barcode will be displayed, along with time stamp and battery level.

```
Scan Time    Battery Level
     ↑            ↑
 ┌──────────────────────┐
 │ 12:59:59  ▐█████▌    │
 │ 1234567890123        │
 │ 4567890123456        │ → Barcode Data
 │ 7890123456789        │
 └──────────────────────┘
```
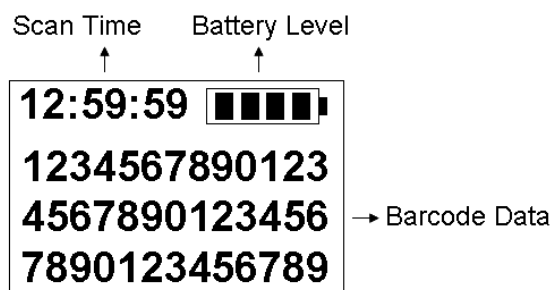
KDC300 provides two additional display format including barcode type & time, and barcode type and battery.

When the barcode cannot be read, try the following:

- Check if the width of barcode label does not exceed the width of the light beam.
- Change the angle between the barcode and KDC300.
- Change the distance between the barcode and KDC300.
- Check option settings defined in KDC300 menu section.

Upload barcode data to PC.

Use the included KTSync synchronization program to upload barcode data from KDC300 to your PC. Please refer to Chapter 4 for the details of Synchronization process.

2.5 KDC300 Menus

User can access menu selection mode by pressing both buttons on the left side of KDC300 simultaneously. The table below summarizes KDC300 menus. Please refer to Chapter 4 for the details of each option.

Note
User should set KDC300 optional parameters properly for the best scanning result.

- Set proper security level. To increase the reliability ,user can set the security level to a number higher than 1 (the default value) up to 4. If the security level is n, then the decoder will keep reading the barcode until it decodes the same value n times.
- Select only necessary barcodes to increase the reliability further.
- Maximize the minimum barcode length. Small barcode length such as 2 or 3 can result in some errors.

Level 1	Level 2	Level 3	Level 4/Note
KDC Mode	Normal	Standard KDC100 Mode	
	Onetime	Onetime Barcode Comparing Mode	
	Continuous	Continuous Barcode Comparing Mode	
	Collation	Select comparing digits	
View Data	View/Delete		Review and delete stored data

Set Barcodes	1D	Codabar	
		Code11	
		Code32	
		Code39	
		Code93	
		Code128	
		EAN8	
		EAN13	
		EANUCC	
		I2of5	
		Matrix2of5	
		MSI	
		Plessey	
		PosiCode	
		RSS-14	
		RSSLimit	
		RSSExpand	
		S2of5ID	
		S2of5IA	
		TLC39	
		Telepen	
		Trioptic	
		UPCA	
		UPCE0	
		UPCE1	

	2D	AztecCode	
		AztecRunes	
		CodablockF	
		Code 16K	
		Code49	
		DataMatrix	
		MaxiCode	
		MicroPDF	
		PDF417	
		QRCode	
	Postal	Postnet	
		PlanetCode	
		UKPost	
		CanadaPost	
		KixPost	
		AusPost	
		JapanPost	
		ChinaPost	
		KoreaPost	
	OCR	OCR OFF	
		OCRA	
		OCRB	
		OCRUSCurrcy	
		OCRMICRE13B	
		OCRSEMIFONT	

(Bar)Code Options	Codabar	TxStartStop	
		Check Digit	DoNotVerify
			VerifyDoNotTx
			VerifyDoTx
		Concatenate	Disabled
			Enabled
			Required
	Code39	Tx StartStop	
		Check Digit	DoNotVerify
			VerifyDoNotTx
			VerifyDoTx
		Append	
		FullASCII	
	I2of5	Check Digit	DoNotVerify
			VerifyDoNotTx
			VerifyDoTx
	Code11	Check Digit	1 digit
			2 digits
	Code128	Concatenate	
	Telepen	Output	AIM
			Original
	UPCA	VerifyChkDgt	
		NumberSys	
		2DgtAddenda	
		5DgtAddenda	
		Req. Addenda	
		Sep. Addenda	
		Coupon Code	

	UPCE	Expand		
		Req. Addenda		
		Sep. Addena		
		Check Digit		
		NumberSys		
		2DgtAddenda		
		5DgtAddenda		
	EAN-13	VerifyChkDgt		
		2DgtAddenda		
		5DgtAddenda		
		Req. Addenda		
		Sep. Addena		
		ISBN Trans.		
	EAN-8	VerifyChkDgt		
		2DgtAddenda		
		5DgtAddenda		
		Req. Addenda		
		Sep. Addena		
	MSI	Tx CheckChar		
	PosiCode	AandB		
		A&B LimitedA		
		A&B LimitedB		
	EANUCC	UCCEAN VER.		
		Emulation	RSS Emulate	
			128 Emulate	
			No Emulate	
	PostNet	Tx CheckDgt		
	PlanetCode	Tx CheckDgt		

Scan Options	Time Out	0.5sec..10sec	
	Min. Length	2..36	
	Sec. Level	1..4	
Data Process	Wedge / Store	Wedge Only	
		Wedge & Store	
		Store Only	
		Wedge & Store if Sent	
		Wedge & Store if Not Sent	
	Data Format	Barcode only	
		Packet data	
	Handshake	Enable/Disable Handshake	
	Terminator	Termination character for data only wedging – None, CR, LF, CR+LF, Tab	
Bluetooth	Power	Enable/Disable	
	Pairing	Enter Pairing Mode	
	Auto Connect	Enable/Disable	
	Auto PowerOff	Enable/Disable	
	Auto PowerOn	Enable/Disable	
	Beep Warning	Enable/Disable	
	PWR OFF Time	1min ~ 30min	

	Memory Status	# of stored barcode, amount of remaining memory	
	Reset Memory	Empty data memory	
	Sleep Timeout	Disable.. 10min.	
	Date / Time	YYYY:MM:DD, HH:MM:SS	
	Battery	% left	
	Version	FW version. Serial Number	
System	Button Lock	Enabled/Disabled	
	Beep Sound	Enabled/Disabled	
	Auto Menu Exit	Enabled/Disabled	
	Port Status	Enabled/Disabled	
	Display Format	Time&Battery, Type&Time, Type&Battery	
	Factory Default	Restore factory default settings	

KDC Mode

KDC300 supports standard data collection mode and special application modes.

- Normal: Normal is the default KDC300 data collection mode.

- Onetime, Continuous, Collation: This is the special barcode checking application. User can define the master barcode and compare other barcodes with the master barcode either onetime or in continuous mode. User also can define compare strings within master and slave barcodes.

View Data Menu

User can browse and delete scanned barcodes in View Data menu if there are stored barcodes in KDC300.

Set Barcodes Menu

KDC300 supports most of the popular barcode symbologies. However, it is important to select only the required symbologies to provide the best scan performance. Please refer Honeywell 5x80 User Manual for the details of supporting symbologies.

Barcode Options Menu

KDC300 supports various barcode options including transmission of start and stop characters, symbology conversion, verification of optional check character, and transmission of check digit. Please refer Honeywell 5x80 User Manual for the details of each option.

Scan Options Menu

- Timeout: User can set scanning timeout up to 10 sec. Default timeout is 2 sec.
- Minimum barcode length: User can set the smallest barcode size up to 36. It is strongly recommended to maximize the minimum length to prevent possible wrong readings. Default is 4.

Data Process Menu

Wedge/Store - KDC300 provides five modes of data transmission.

- Wedge Only: KDC300 doesn't store scanned barcode in the memory and just transmits it to the host
- Wedge & Store: KDC300 stores scanned data in the memory and transmits it to the host
- Store Only: KDC300 stores scanned data in the memory but doesn't transmit it to the host.
- Wedge & Store if Sent: KDC300 stores scanned data in the memory if it transmits to the host successfully
- Wedge & Store if Not Sent: KDC300 stores scanned data in the memory if it fails to transmit it to

the host

Data Format - KDC300 provides two data formats

- Barcode Only: KDC300 transmits scanned barcode only. User may incorporate proper data transmission error detection and correction mechanism in this mode.
  - KDC300 supports various terminations characters for barcode only format
  - User can select <NONE>, <CR>, <LF>, <CR+LF> or <TAB> as the termination character
- Packet Data: KDC300 transmits packet data with checksum to minimize transmission error. KTSync program operates in Packet Data mode and user shouldn't change this option while using KTSync program.

Handshake - KDC300 provides handshake mode when sending packet data

- Handshake mode will increase the reliability of packet data transmission.
- The default is disable handshake mode.

Terminator – KDC300 supports various termination characters when KDC300 wedges barcode in data only format.

- User can select <NONE>, <CR>, <LF>, <CR+LF> or <TAB> as the termination character when KDC300 wedges barcode in data only format.

Bluetooth Menu

KDC300 supports a wide range of Bluetooth features to increase usability as well as to minimize the power usage. Please refer to Chapter 3 for details on Bluetooth functions.

System Menu

- Memory Status: User can check the number of stored barcodes and memory usage in this menu.
- Reset Memory: This menu enables user to erase all stored barcodes.
- Sleep Timeout: KDC300 goes to sleep mode after scanning barcode to minimize the power consumption. Default sleep timeout is 5 sec.
- Date/Time: User can set current date and time in this menu. KTSync program also provides automatic date and time synchronization with PC date and time function.
- Battery: This menu shows the current status of battery power level.

- Version: This menu shows the firmware version number and KDC300 serial number.

- Button Lock: User can lock/unlock KDC scan and side buttons.

- Beep Sound: User can enable/disable KDC beep sound.

- Port Status: User can enable/disable *Bluetooth*, Serial and USB connection/disconnection messages.

- Display Format: User can select one of the following display format

  - Time & Battery (Default)

  - Type & Time

  - Type & Battery

- Factory Default: User can reset options to factory default.

2.6 LED Status

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

2.7 Empty Battery

KDC300 will display "Empty Battery Connect USB" message if the battery becomes empty. User should synchronize the data immediately to prevent the loss of collected data.

2.8 Buffer Full

KDC300 will display "Buffer Full" message if the size of collected data reaches 200K byte or collects 10,240 barcodes. User should synchronize and clear the memory to continue data collection using the KTSync synchronization program.

2.9 Reset

User can reset KDC300 as follows:

- Plug KDC300 USB connector to PC USB port.

- Press lower menu button and scan button simultaneously for 5 seconds.

- Release lower menu button and scan button once LED becomes yellow.

- Initial screen ("KoamTac Data Collector KDC300") is displayed once the unit is reset.
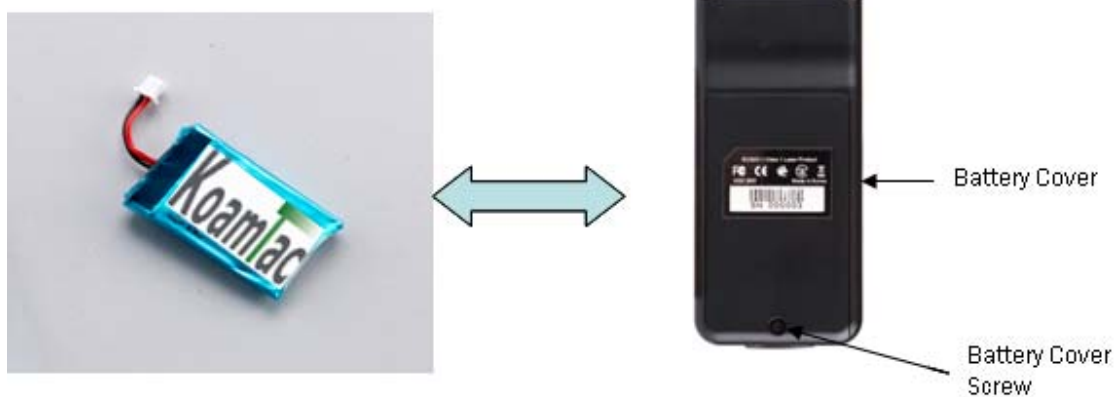
Note

KDC300 stores collected data into flash memory and wouldn't lose the data during reset process.

2.10 Replacing Battery

User can purchase a new Li-polymer rechargeable battery from local distributor and replace the Li-polymer rechargeable battery as follows:

- Disassemble back cover (Unscrew middle screw only)

- Replace battery and assemble back cover

3. Bluetooth

KDC300 supports generic Bluetooth COM port and compatible with following Bluetooth stacks.

- BlueSoleil

- Broadcom (Widcomm)

- Microsoft Windows XP SP2, Vista and Mobile

- Toshiba

KDC300 may be able to connect to other Bluetooth stacks supporting SPP (Serial Port Profile) other than listed above.

3.1 Power On/Off Bluetooth Power

Bluetooth data transmission is a very power consuming process and careful power management is required. It is strongly recommended to **POWER OFF** Bluetooth if KDC300 is not going to be used for an extended period.

3.2 Auto Power Off Bluetooth

User can Enable/Disable Auto Bluetooth Power Off feature in Auto PowerOff menu. The default is Enable and it is strongly recommended to keep it Enable to maximize the KDC300 operation time.

If Auto PowerOff is enabled, KDC300 powers off Bluetooth if KDC300 is **NOT CONNECTED** to the Host for the duration defined in PWR OFF Time menu. User can power on Bluetooth manually once powered off.

3.3 PWR OFF Time

If Auto PowerOff is enabled, KDC300 powers off Bluetooth if KDC300 is **<u>NOT CONNECTED</u>** to the Host during the time duration defined in this option. User can set Auto power off time between 1minute to 30 minutes.

3.4 Auto Power On Bluetooth

User can Enable/Disable Auto Bluetooth Power On feature in Auto PowerOff menu. The default is Disable.

If Auto PowerOn is enabled, KDC300 powers on Bluetooth if KDC300 Bluetooth power is off and user triggers scan button. Host program may have to open COM port again to reconnect to KDC300.

3.5 Pairing KDC300 to Host Device

User should pair KDC300 with Host Device first. This paring process doesn't have to be repeated once Host device recognizes KDC300.

User can set KDC300 to paring mode by selecting Pairing menu.

- "Paring started" message will be displayed once entering pairing mode.
- Enter PIN "**0000**" once requested by Host
- "Pairing success" message is displayed once host sets up Bluetooth connection successfully before pairing timeout (60sec).
- "Pairing failed" message is displayed if failed to setup a Bluetooth connection with Host.
  - User can ignore this message if Host shows "Connected" message
  - KDC300 doesn't show "Pairing success" message unless Host opens corresponding Bluetooth COM port

3.6 Connecting KDC300 to Host Device

User should connect KDC300 to host device before using Bluetooth feature. Please refer to host device manual for the proper Bluetooth connection procedure.

KDC300 would display "Bluetooth connected" message once connected with host device.

3.7 Auto Connecting KDC300 to Host Device on Power On

KDC300 can be connected to host device automatically upon Power On Bluetooth if Auto Connect is Enabled. The default is Disabled and discouraged to use this feature unless fully tested with host device.

Some host devices do not support this feature and will result delay and power loss if Enabled but not connected automatically.

3.8 Beep Warning

KDC300 beeps the Bluetooth connection status.

- High short beep tone will be played once Bluetooth is connected.
- Low short beep tone will be played once Bluetooth is disconnected.

KDC300 will beep 5 times with short beep if

- "Beep Warning is ENABLED" and
- "Auto PowerOff is DISABLED" and
- "KDC300 is DISCONNECTED from HOST" and
- "Bluetooth power is ON".

KDC300 will beep for one second if Bluetooth power becomes OFF by Auto PowerOff option

4. Synchronization

KTSync has two major functions – Synchronization and Keyboard Emulation. KoamTac Synchronization provides data upload functions to any Windows XP application. Keyboard Emulator enters scanned data directly into any XP application programs as if it was manually typed on the keyboard. KTSync also provides the following additional functions:

- Prefixes, suffixes add function which further eliminates the need for manual data entry

- Symbology and Scan Option selector

- Barcode Wedging.

You will see the following screen when launching KTSync application.

File Menu

- Connect : Manually select the com port used by KTSync program to the KDC300 com port. KDC300 com port can be found in the Windows Device Manager.

- Synchronize: Synchronize KDC300 data with host manually

Setting Menu

- Synchronize: Select Synchronize options

- Barcode & KDC: Select Barcode and KDC options

- Confirmation: Select auto connection and/or synchronization confirmation options.

**About Menu**

- KTSync version information

4.1 Connection

The KoamTac KDC300 connects to com port automatically once it is connected to PC USB port. User can also manually assign the KTSync com port to the KDC300 com port using Connection submenu under File menu if needed..
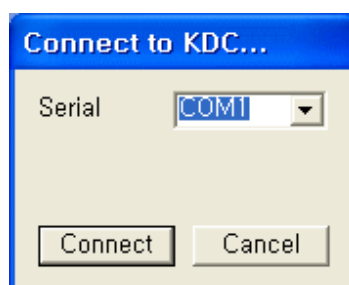
- KDC300 com port can be found in the Windows Device Manager.

- The KTSync program will not connect to KDC300 if KDC300 is in Menu mode.

- If KTSync program fails to connect automatically to KDC300

  - Exit KTSync program

  - Ensure KDC300 is properly connected to the PC by one of the USB ports and that it is not in menu mode

  - Start KTSync program once again.

4.2 Synchronization

KDC300 provides several synchronization options with hosts such as PC, PDA and Cell phone. The standard package includes the software for Windows XP/Vista synchronization. If you need cell phone or PDA integration, please contact your local representative. User can configure various Synchronization and Keyboard Emulation (Wedge mode) functions in the "Synchronization Settings" option.
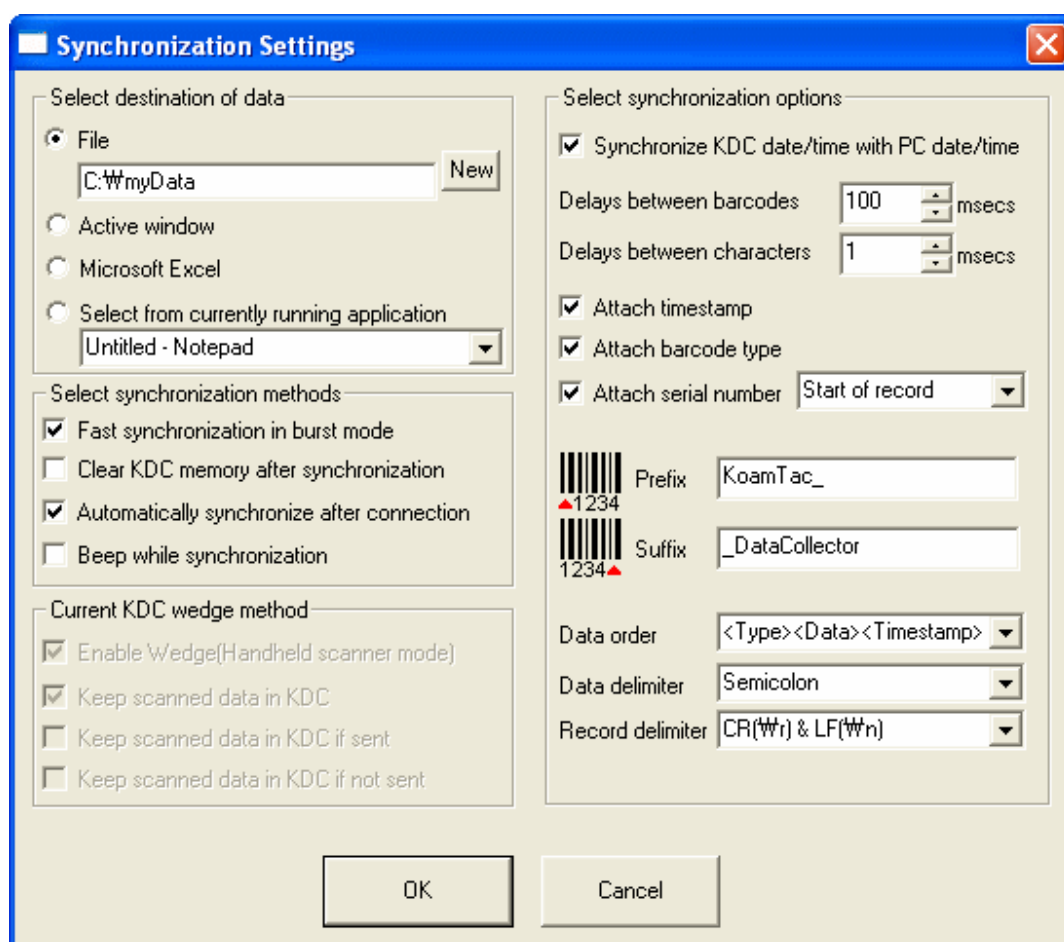
Select destination of data

- File

  - User can save the collected data into a file

  - The target directory and filename can be selected by clicking "New" icon.

  - "C:\MyData" is the default directory

- Active window
  - If this method is selected then scanned barcodes are passed to the active program as if the barcode had been entered from the keyboard

- Microsoft Excel

  - Users should select this method to import barcode data into Microsoft Excel.

- Select from current running application
  - User can select a currently running program to which the KDC300 data will be synchronized.

Note
- Data synchronization can be set to automatically after connection, or manually *- User should not operate the PC during the synchronization process. It can interrupt synchronization process and will result in undesired behavior*

Select Synchronization Method

There are two synchronization options that user can select.

Fast Synchronization in burst mode

User can synchronize KDC300 with PC in burst mode or handshaking mode. Burst mode provides faster synchronization process if selected destination of data is a file.

Clear KDC300 memory after synchronization

User can clear KDC300 memory after synchronization if this option is selected. KDC300 can store maximum 10,240 or 200K byte barcode data.

● It is important to clear KDC300 memory periodically to prevent memory full status which will prevent user from storing additional data.

● Data can be deleted using KDC300 menu options if this option is not selected.

Automatically synchronize after connection

User can synchronize collected data with PC automatically by selecting this option.

● It is important to configure other synchronization options properly before performing an automatic synchronization operation.

● Data synchronization can be done manually by clicking synchronize icon if this option is not selected.

Beep while synchronization

User can enable or disable beep tone during the synchronization process. KTSync program generates a beep tone for each barcode data coming from KDC300 if beep tone is enabled. It beeps 5 times once KTSync finishes synchronization process.

Current KDC Wedge Methods

This section shows current KDC300 Wedge/Store option under Data process menu. KDC300 can be configured in one of the following five Wedge/Store modes:

- Wedge Only - The scanned data is transmitted to the host. KDC300 does not store scanned data.

- Wedge & Store - The scanned data is stored in the KDC300 and transmitted to the host.

- Store Only - The scanned data is stored in the KDC300 and not transmitted scanned data to the host.

- Wedge & Store if Sent - The scanned data is stored in the KDC300 if it is transmitted to the host successfully.

- Wedge & Store if Not Sent - The scanned data will only be stored in KDC300 if the KDC300 is unable to transmit to the host successfully.

Enable Wedge (Handheld scanner mode)

Enable Wedge (Handheld scanner mode) would be marked if either Wedge only or Wedge & Store option is selected.

Keep Scanned Data in KDC

Keep scanned data in KDC would be marked if either Store only or Wedge & Store option is selected.

Select Synchronization Options

Synchronize KDC300 time with PC time when connected

This option enables user to synchronize KDC300 date and time with host computer date and time. KDC300 date and time would be synchronized with PC date and time once connected to PC.

Delays

User 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 time.

Prefix and Suffix

- Enter the characters you want to append in the prefix and suffix field.
- The character set would be any combination of ASCII characters including alphanumeric, line fee ("\n") and carriage return ("\r")

Order and Delimiter

- User can select the order of data – Type, Data, Timestamp
- User can select the delimiter between data – Tab, Space, Comma, Semicolon
- User can select the delimiter between records – None, LF, CR, Tab, LF & CR
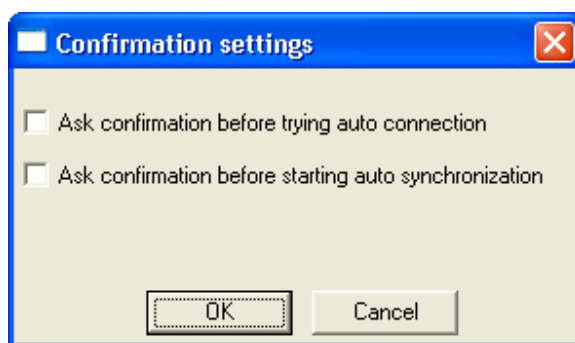
4.3 Barcode Selection

User can configure barcode options in the Scan Module Settings menu. Please refer to Appendix A for the proper settings of barcode options for your application It is very important to configure proper barcode options for the best performance.
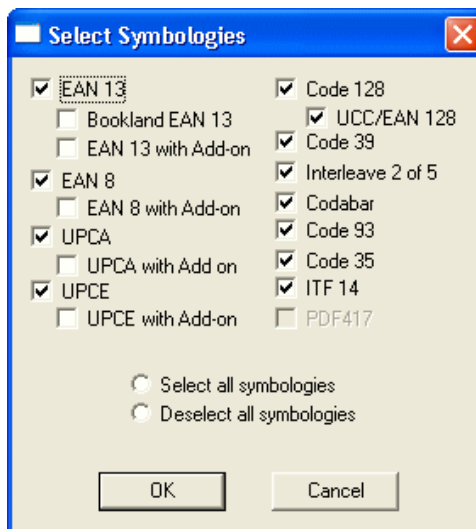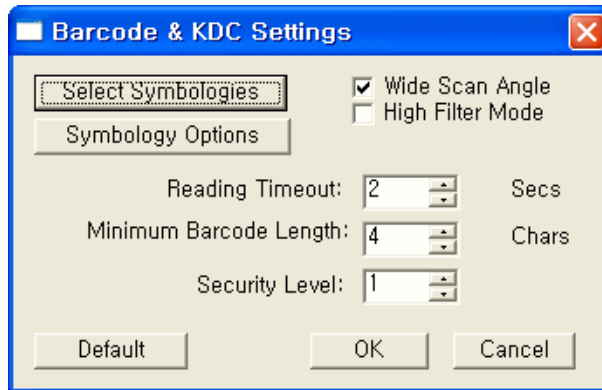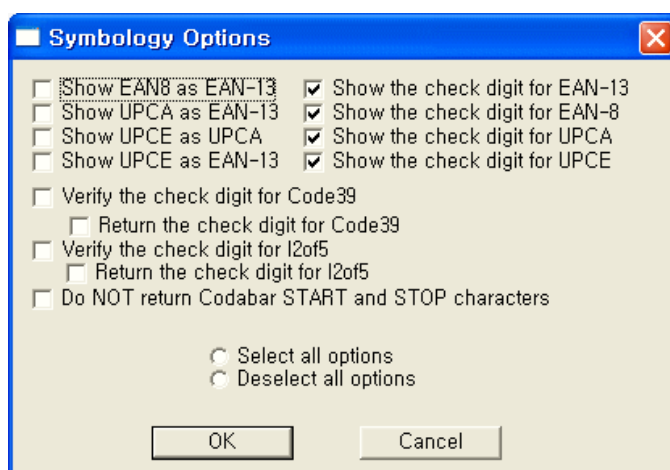
4.4 Confirmation

Auto connection and auto synchronization window will pop up if user selects the following confirmation options.

5. Master-Slave barcode compare application

KDC mode supports master-slave barcode compare application as well as normal data collection process.

User can define master barcode and comparing it with slave barcodes in this application.

User can define one master barcode and compare it with one slave barcode repeatedly in Onetime mode. One master barcode and multiple barcodes can be compared in continuous mode.

Collation menu allowing user comparing substring within a barcode instead of entire barcode string. User can start character position and number of characters to be compared in the collation menu.

The following flow chart shows master-slave application operation flow. User can go back to KDC mode menu by pressing <Up> and <Down> key simultaneous during master-slave barcode comparing process.
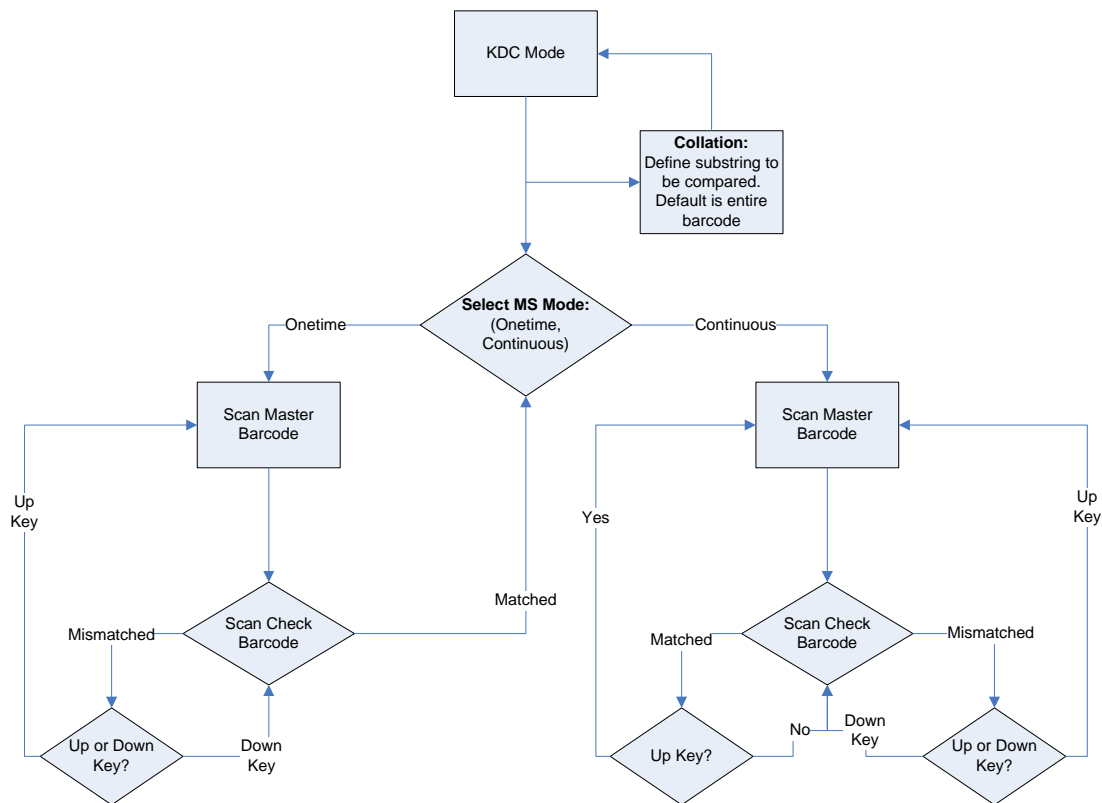
6. Troubleshooting

Problem	Possible Cause	Possible Solution
KDC is dead	Dead battery	Charge the battery by connecting USB cable to PC
	Hardware failure	Contact technical support
KDC is not charging KDC does not scan a barcode	Bad battery	Replace the battery
	Poor USB port	USB port doesn't supply proper current to KDC Charge KDC using other USB port
	Damaged barcode	Try to scan a different barcode
	Out of scan range	Move the scanner closer or farther from the barcode
	Incorrect angle	Change the angle until the scanner reads the barcode
	Not supported symbology	Contact sales for the possibility of custom symbology support
	Scan options	Check the option settings
Scanner reads wrong barcode Failed reading	Dirty Scan Window	Clean the scan window
	Damaged Scan Window	Replace the scan window
	Dirty Scan Window	Clean the scan window
Can't communicate with PC, PDA or cell phone Can't communicate with PC, PDA or cell phone	Damaged Scan Window	Replace the scan window
	Poor quality printing	Select only necessary barcodes Increase the minimum barcode length Increase security level
	Cable is not connected properly	Check the proper connection of cable between scanner and PC, PDA and cell phone
	Bluetooth is not connected	Check the Bluetooth connection between KDC300 and host device.
LED blinks yellow	Software is not working properly	Reload the software
Buffer Full Message	COM configuration	Check COM port configurations

LED blinks yellow	Low battery	Charge the battery by connecting USB cable to PC
		Will lose collected data if the battery is empty.

7. Warranty

LIMITED WARRANTY AND DISCLAIMERS

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

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

Serial number

A serial number appears on the KDC300 label. This official registration number is strictly related to the device purchased. Make sure that the serial number appearing on your KDC 200 is not removed. Removing the serial number will affect the warranty conditions and liability disadvantageously, so please be strict at maintaining the label with serial number on the KDC300. 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, KDC300 is warranteed 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's 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.

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WARNING

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

Appendix A. Barcode and Scan Options

A.1 System Information

User can set up sleep time between 0.5 and 10 seconds. Please set up correct date and time before using the KDC300 for the first time, after replacing the battery or after resetting the device.

User can check the memory and battery status in the system menu. The installed firmware version and device serial number can also be verified in the system menu.

A.2 Miscellaneous Barcode Information

How tall should a linear barcode symbol be?

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

Should I use 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 effects data integrity especially when character density is at the limits and/or image quality is not at it's best.

How many barcodes can we store?

The number of barcodes that can be stored in these bytes 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 (total 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, the maximum number of barcodes that can be stored is 10,240. Therefore, KDC300 can store 10,240 UPCA barcodes.

If different length barcodes are mixed, then a user cannot compute a priori the maximum number of barcodes that can be stored.

What happens when the data buffer is full?

When the buffer is full, KDC300 displays buffer full message and ignores the command to scan barcodes.

User should clear the buffer to continue the data collection.

Appendix B. FAQ

B.1 Symbology

Q: What kinds of barcode symbologies are supported by KDC300?

A: KDC300 supports all major 1D and 2D barcodes plus OCRs.

B.2 Host Interface

Q: What are the supporting interface ports on KDC300?

A: KDC300 supports serial, USB-Serial and *Bluetooth* SPP.

Q: What *Bluetooth* protocol stacks are supported by KDC300?

A: KDC300 supports all major *Bluetooth* stacks such as Toshiba[®], Widcomm[®], Bluesoleil[®] and Microsoft[®]. KDC300 can be connected to other *Bluetooth* stacks supporting SPP (Serial Port Profile) other than listed above

B.3 Battery

Q: How many charge cycles for the battery life?

A: More than 300 times.

Q: How many barcodes can a fully charged KDC300 read?

A: KDC300 can scan more than 20,000 barcodes with bluetooth connection.

Q: How long does it take to charge KDC300?

A: About four hours from empty status.

Q: How long battery lasts in the sleep mode?

A: KDC300 will last more than two days if *bluetooth* power is ON and connected to a host device in normal sleep mode. It will last more than a week in deep sleep mode

Q: Can a user replace KDC300 battery?

A: Yes. KDC300 has separate compartment for battery and user can open and change the battery using basic tools.

B.4 Memory

Q: How can I download stored barcode or wedge barcodes to my application?

A: KoamTac provides free synchronization and wedging software for *Microsoft*® Windows XP, Vista and Mobile5.0+.

Q: Does KDC300 support *Blackberry*®, *Symbian*®, *Apple*® and *Palm*® devices?

A: KoamTac provides synchronization and wedging software only for Microsoft® Windows XP, Vista and Mobile5.0+ devices. User can write the application for *Blackberry*, *Symbian*, *Apple*, *Palm* and other OS using KDC300 SDK. User may purchase SerialMagic® software from Serialio. *SerialMagic* provides barcode wedging capability between KDC300 and *Blackberry*, *Symbian*, Apple and Palm devices.

B.5 Programming

Q: Can a partner program KDC300 menu?

A: KDC300 doesn't support programming environment to customers currently. Simple application generator utility is scheduled to be released in 1Q 2009.

Q: Can KoamTac provide custom menu service?

A: Yes. Custom menu can be developed by KoamTac engineers. KoamTac provides paid service for custom menu for the projects.

Q: Can a partner develop PC or PDA application for KDC300?

A: KoamTac provides free SDK for PC and PDA to partners. Partner can use DLL and demo program source code included in SDK for custom application.