Charge KDC Battery

Prior to using the KDC, the user should charge its battery by following the below instructions.

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

Configuration Methods for the KDC200/250/300/350

- KDC Menu
- KTSync® Software
- Special Barcodes

Figure 6 - Location of KDC Menu and use of buttons (KDC100/200/250/300)

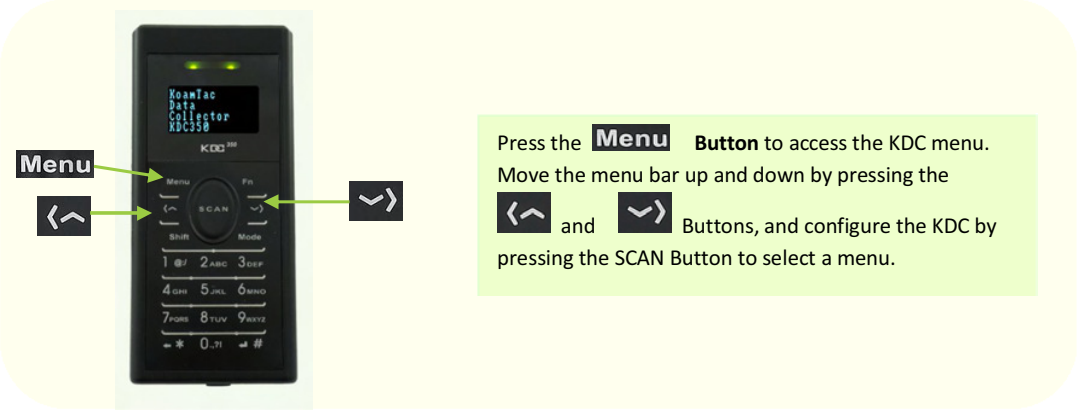


Figure 7 - Location and use of buttons on a keypad (KDC350)

Configuration Methods for the KDC 20/400

- KTSync® Software
- Special Barcodes

Basics

Read barcodes

To read a barcode using the KDC, simply point the KDC at a barcode and press the scan button. Be sure to point the scan engine window at the barcode, not at the user's face, and make sure to position the light beam on the barcode.

If a barcode has been successfully scanned, the user will hear one short beep and the LEDs will illuminate green. The scanned barcode data will be displayed on the KDC screen, along with the scan time and battery level. *Depending on the configuration of the KDC, other information may also be displayed.*

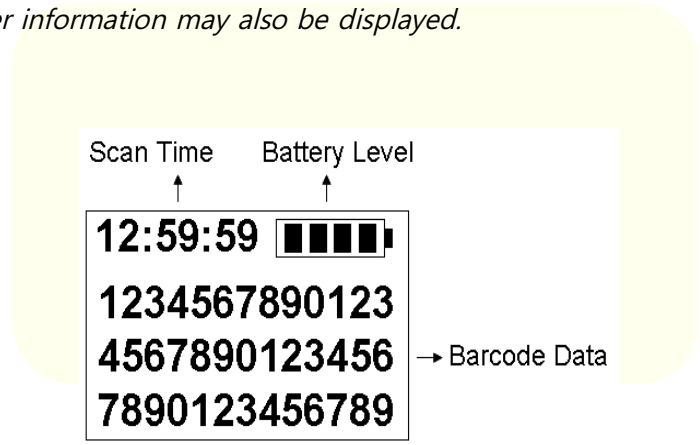


Figure 8 - KDC Display

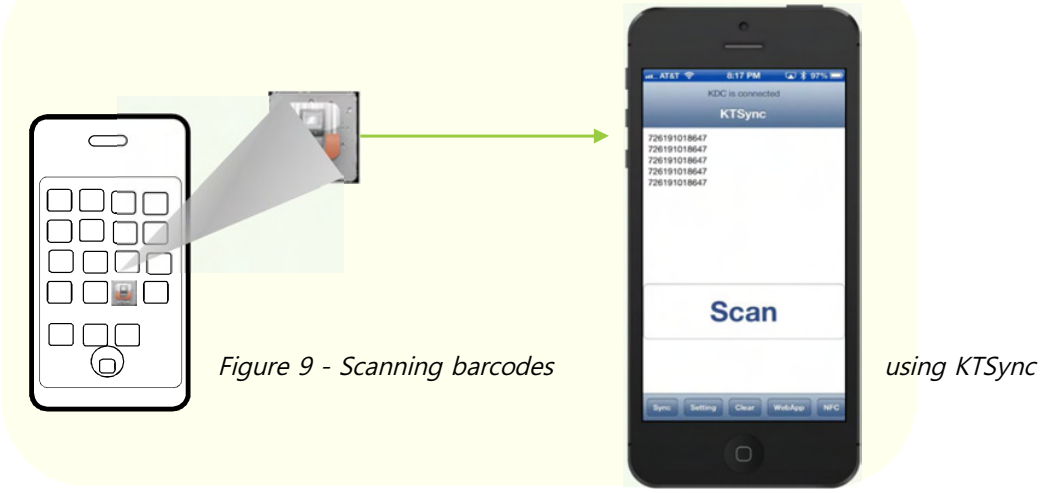


Figure 9 - Scanning barcodes using KTSync

If scanning was unsuccessful, the user will hear two short beeps, the LEDs will illuminate red, and the message ***Failed reading…*** will display. If this is the case, the user should point the KDC at the barcode and press the scan button while trying the following suggestions:

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

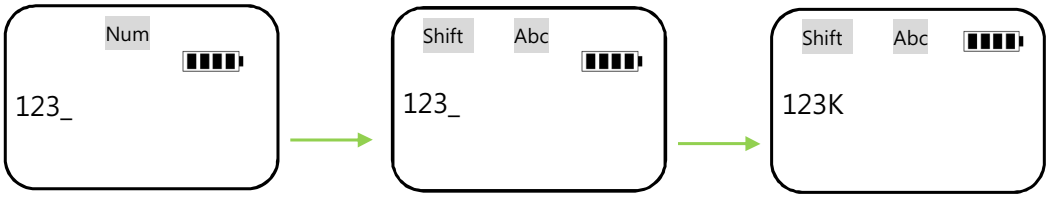
키패드(KDC350)

Menu (Menu button)	KDC 메뉴를 보여주거나, 빠져나오는 기능을 수행합니다. 메뉴 모드에서 exit 을 누르면 메뉴에서 빠져 나옵니다.
Shift (Shift button)	대문자와 소문자 입력 모드간 전환할 수 있습니다.
Mode (Mode button)	숫자와 문자 입력 모드간 전환할 수 있습니다.
(Up button)	메뉴 선택바를 위로 한단계 올리는 기능을 합니다. 메인화면에서 Up 버튼을 누를 시 이전에 연결되었던 BT 호스트 장비와 연결을 시도합니다.
(Down button)	메뉴 선택바를 아래로 한단계 내리는 기능을 합니다. BT 가 연결중인 상태에서 3 초 이상 누르고 있을 시 BT 연결을 끊을 수 있습니다.
1@! 2ABC 3DEF (Number button)	숫자나 문자를 입력하기 위해 사용됩니다.
# (Enter button)	바코드 데이터 입력모드시 화면에 입력된 데이터를 저장하는 기능을 수행 합니다.
* (Delete button)	화면에 입력된 데이터의 마지막 글자를 삭제하는 기능을 합니다.
Fn (Function button)	숫자키와 조합되어 사용되며, Function 버튼과 숫자를 순차적으로 눌러 조합시 아래와 같이 KDC 설정을 간단하게 변경할 수 있습니다.

FN + 1	키패드 조명 켜기/끄기
FN + 2	GPS 전원 켜기/끄기 (KDC350 G 시리즈만 해당)
FN + 3	NFC 전원 켜기/끄기 (KDC350 N 시리즈만 해당)
FN + 4	블루투스 전원 켜기/끄기
FN + 5	블루투스 페어링 모드로 들어가기
FN + 6	Bluetooth 의 Connect Device 프로파일 변경
FN + 0	Factory Default

키패드를 이용한 바코드 데이터 입력하기(KDC350)

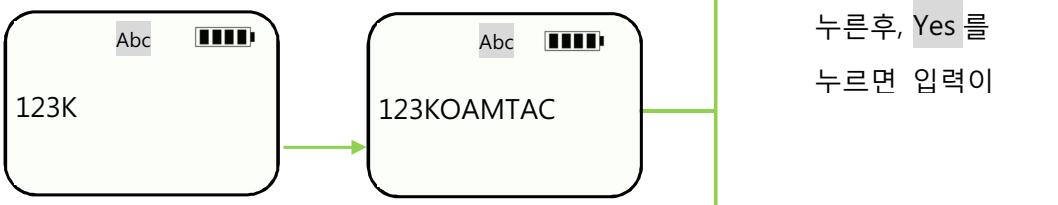
- 키패드를 사용하여 사용자가 원하는 바코드 데이터를 입력할 수 있습니다.
- 예제는 아래와 같습니다. (“123KOAMTAC” 데이터를 입력한 후 저장 및 취소하기)



키패드에서 **1@:/** **2ABC** **3DEF** 를

Mode를 누르면 Abc로 전환이 됩니다.

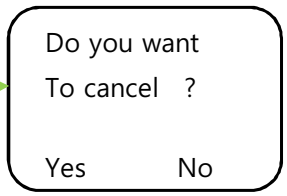
키패드 **5JKL**를 눌러 대문자 K를 입력한다.



Shift버튼을 눌러 소문자 모드로

나머지 데이터를 차례대로

Cancel



Menu 버튼을 누른후, Yes를 누르면 입력이

Save

SCAN 버튼이나 # 버튼을 눌러 입력된 데이터를 저장한다.

Read NFC Tag (KDC 350/400/450)

Read NFC Tag (KDC 350/400)

1) Enable the **NFC Power** option in the **NFC Config** menu.
2) Touch the NFC tag to the back of the KDC350/400 case, and make sure the tag and case are within 5cm of each other.
3) The KDC will show the NFC tag UID and the user will hear a short beep if it has been read successfully.
4) KDC350N/400N supports the following card types.
    1) Mifare 1K
    2) Mifare Ultralight
    3) Ultralight C
    4) ISO 15693

Read HF RFID Tag (KDC450)

The KDC450 can virtually read any ISO/IEC 14443 A or B compliant smartcards, or ISO/IEC 15693 compliant HF RFID tags.

To read a HF RFID tag, touch the RFID card to the back of the KDC450 case, and make sure the tag and case are within 5cm of each other. The user will hear a short beep if it has been read successfully.

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.)

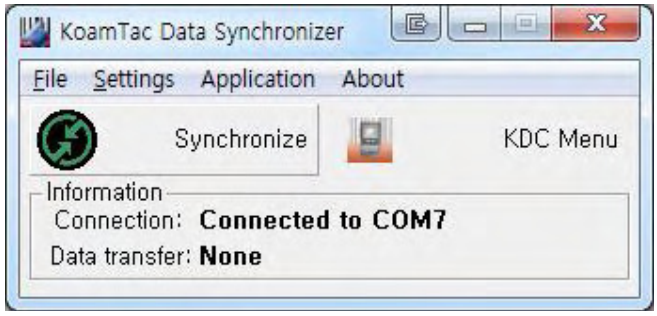
- Synchronization - Provides data upload functionality to your applications.
- Keyboard Emulator - Allows scanned data to be uploaded directly into your application as if the data were being entered manually with a keyboard.
- Application Generation - Allows users to create custom applications or download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

Additional functions include:

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

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:



KDC20/200/250/300/350/400

Figure 10 - KTSync® Synchronizer Menu

File Menu

- Connect: This option displays the Serial port (COM#) assigned to KDC. You can also use this option to manually assign the Serial port. The Serial port assigned to KDC can be found under Windows Device Manager. The port assignment is used by KTSync® for synchronizing data from the KDC to the host.
- Synchronize: This option manually tells the KDC to synchronize data with the host. While data is being synchronized, KTSync menu options are unavailable.

  Note Please do not use your computer during data synchronization.

- Bluetooth: This option is not available on KDC100. Users can register a MAC address to be directly connected by KDC20/30/200/250/300/350/400.
- 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.

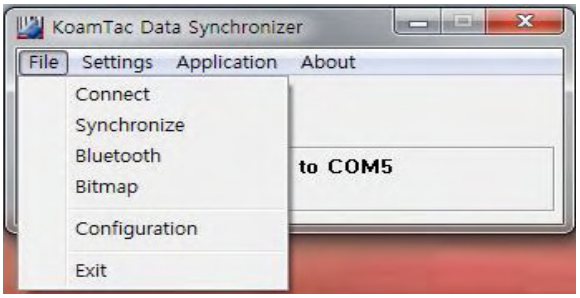


Figure 11 - File Menu

Settings Menu

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

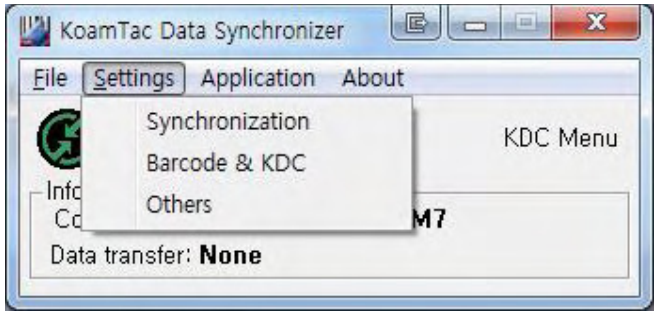


Figure 12 – Setting Menu

Application Menu

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

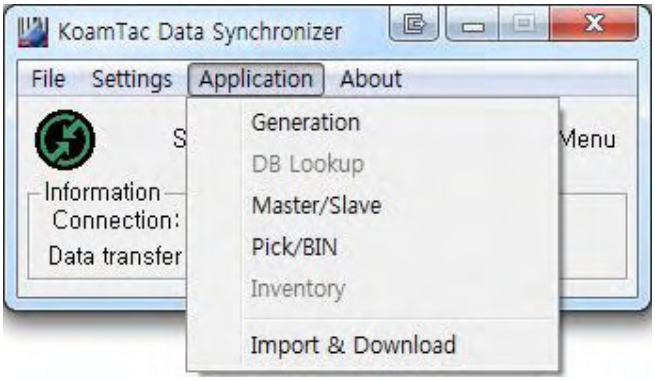


Figure 13 - Application Menu

About Menu - KTSync® - Version Information

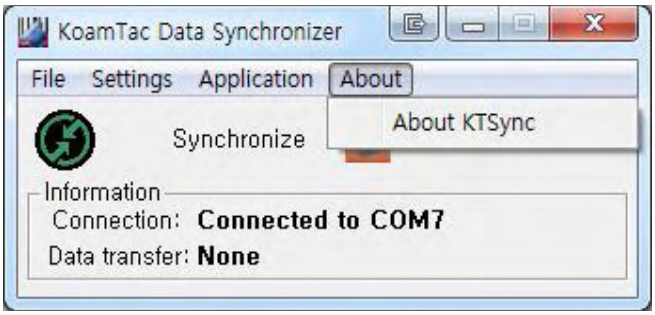


Figure 14 - About Menu

File Menu

Connect to KDC

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

Figure 15 - 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 the KDC Menus. You must EXIT from the KDC Menus.
- If KTSync® fails to connect automatically to the KDC, please follow these steps:

1. Exit KTSync®.
2. Check to make sure that you have connected the KDC to a USB port on your PC.
3. Make sure that the user is using the cable provided with the KDC.
4. Check to make sure that the KDC is not in KDC Mode Menu.
5. Restart KTSync®.

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

Synchronize

Located under the File Menu, this option allows the user 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.

Bluetooth

This menu option allows the user 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 a *Bluetooth* printer. The user should choose a *Bluetooth* device to be connected in "Connect to" menu in KDC *Bluetooth* Service menu.

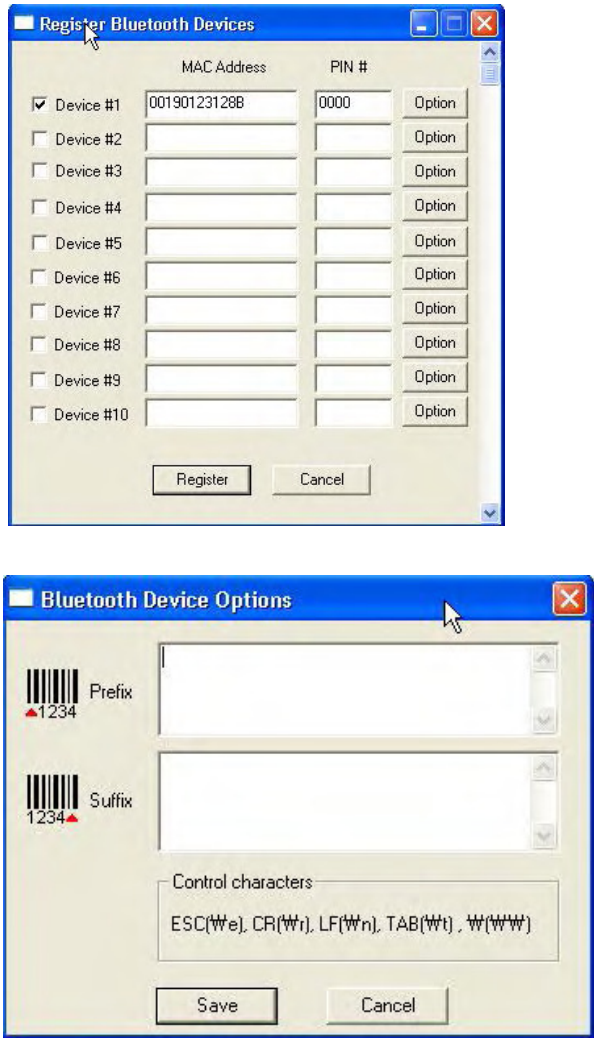
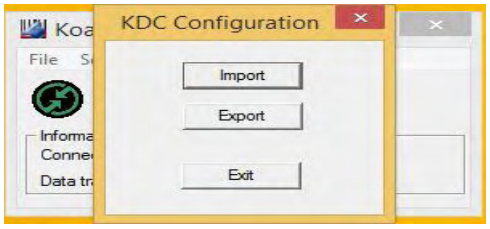


Figure 16 - Bluetooth Device

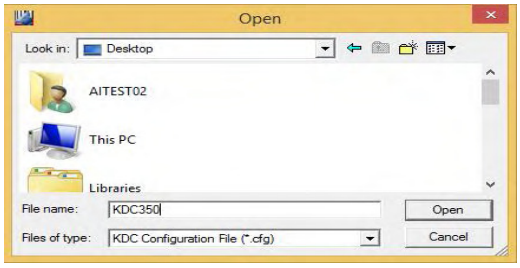
Configuration

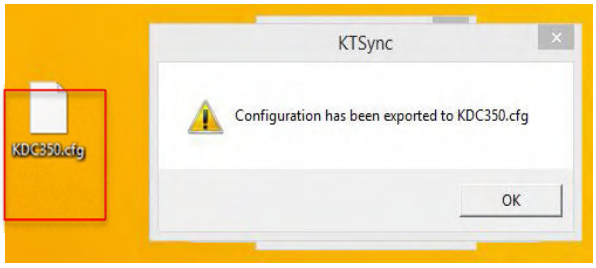
This menu is useful for the users who need to configure different KDCs with same settings. In this menu, you can export settings from a KDC to your computer and import it to other KDCs.

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.

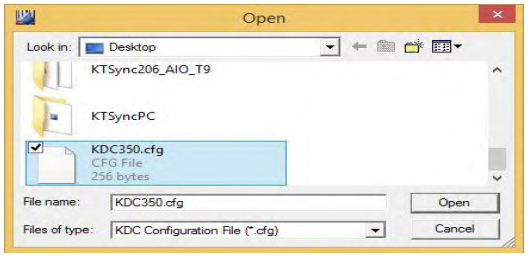


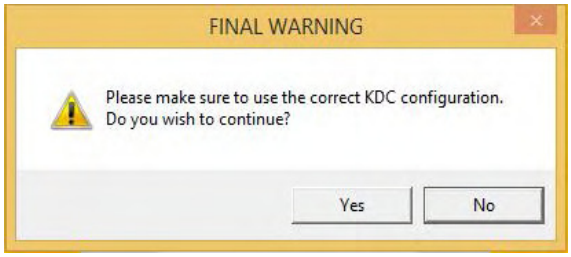
- Export





- Import





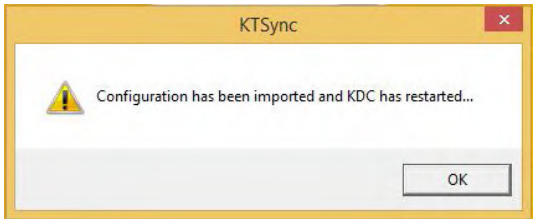


Figure 17 – Configuration

Synchronization Settings

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

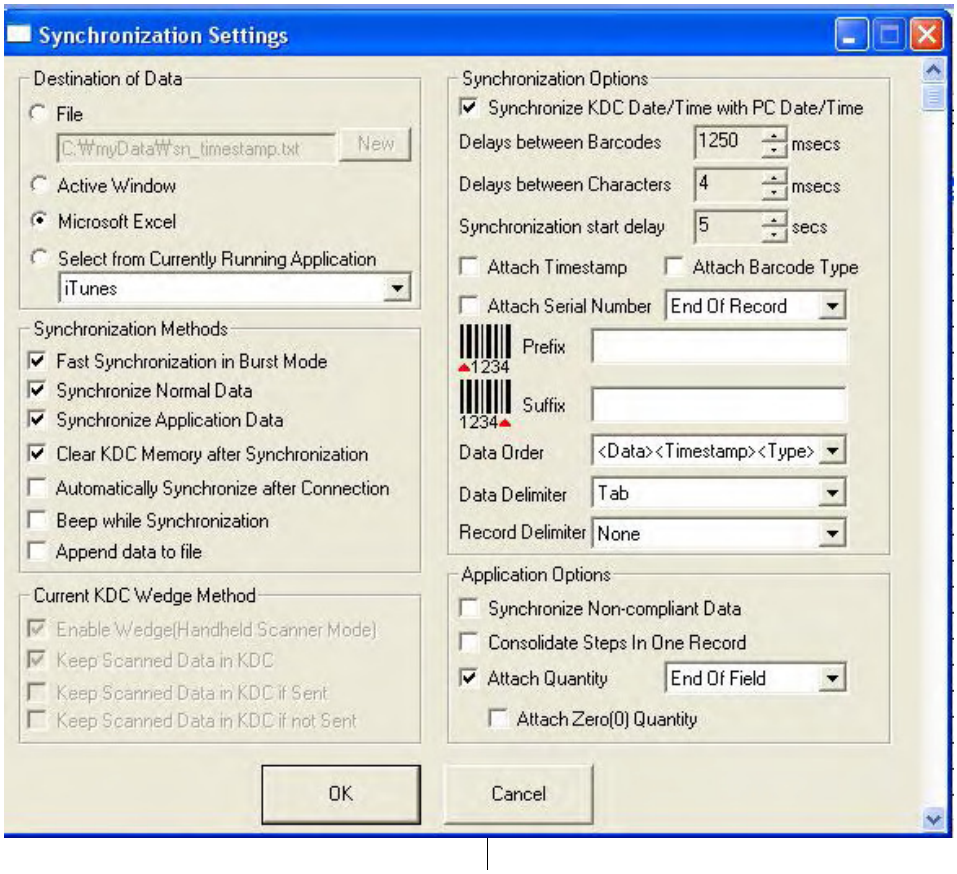


Figure 18 - KTSync® Synchronization Settings

Destination of Data

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

- File - This option means data will be saved in the assigned filename. You can select a different target directory by clicking the New icon. The default directory is C:₩MyData₩sn_timestamp.txt. 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 is being entered directly from a keyboard.
- Microsoft Excel - This option means barcode data is being imported directly into Microsoft's Excel. Various parameters can be set when uploading data to Excel.
- Select from Current Running Application – This option allows you to select a currently running application for data synchronization.

Note

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

Synchronization Methods

Fast Synchronization in Burst Mode

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

Synchronize Normal Data

If Synchronize Normal Data option is selected, the KDC will synchronize only Normal Data in KDC memory. If the user wants all data in KDC memory synchronized, the user should select Synchronize Normal Data **and** Synchronize Application Data.

Synchronize Application Data

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

Clear KDC Memory after Synchronization

If this option is selected, the stored barcode data is cleared from the KDC memory after synchronization. The KDC20/200/250 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 a Buffer Full message. Buffer Full prevents 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 the user automatically synchronize collected data immediately to the computer when the KDC is connected to the host.

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

Beep while Synchronization

The user can enable or disable the beep tone during the synchronization process. If this option is selected, a beep is sounded every time barcode data is synchronized. The KDC beeps 5 times when the synchronization process is complete.

Append data to File

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

Current KDC Wedge Method

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

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

Enable Wedge (Handheld Scanner Mode)

This option will be checked if Wedge Only or Wedge & Store option is selected.

Keep Scan Data in KDC

This option will be checked if Store Only or Wedge & Store option is selected.

Synchronization Options

Synchronize KDC Time with PC Time when Connected

This option enables the user 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

The 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 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 the user wants to attach to the front (Prefix) or back (Suffix) of the barcode in the Prefix and Suffix fields.
- The character set is any combination of ASCII characters including alphanumeric, line feed ("₩n"), and carriage return ("₩r").

Order and Delimiter

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

Application Options

Synchronize Non-Compliant Data

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

Consolidate Steps in One Record

KTSync will consolidate the data collected in Step 1 with the data collected in Step 2 and/or Step 3. When Consolidate Steps in One Record is Enabled, data will be consolidated into one record instead of individual data records for each step. If this

option is Enabled, non-complete records, i.e. three steps were defined but data was only collected for two steps, will be discarded.

Attach Quantity

If this option is Enabled, quantity will be attached to the left or right of the data.

Barcode & KDC Settings

KTSync® allows the user 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.

Note The user must configure barcode and scan options properly for optimal KDC performance.

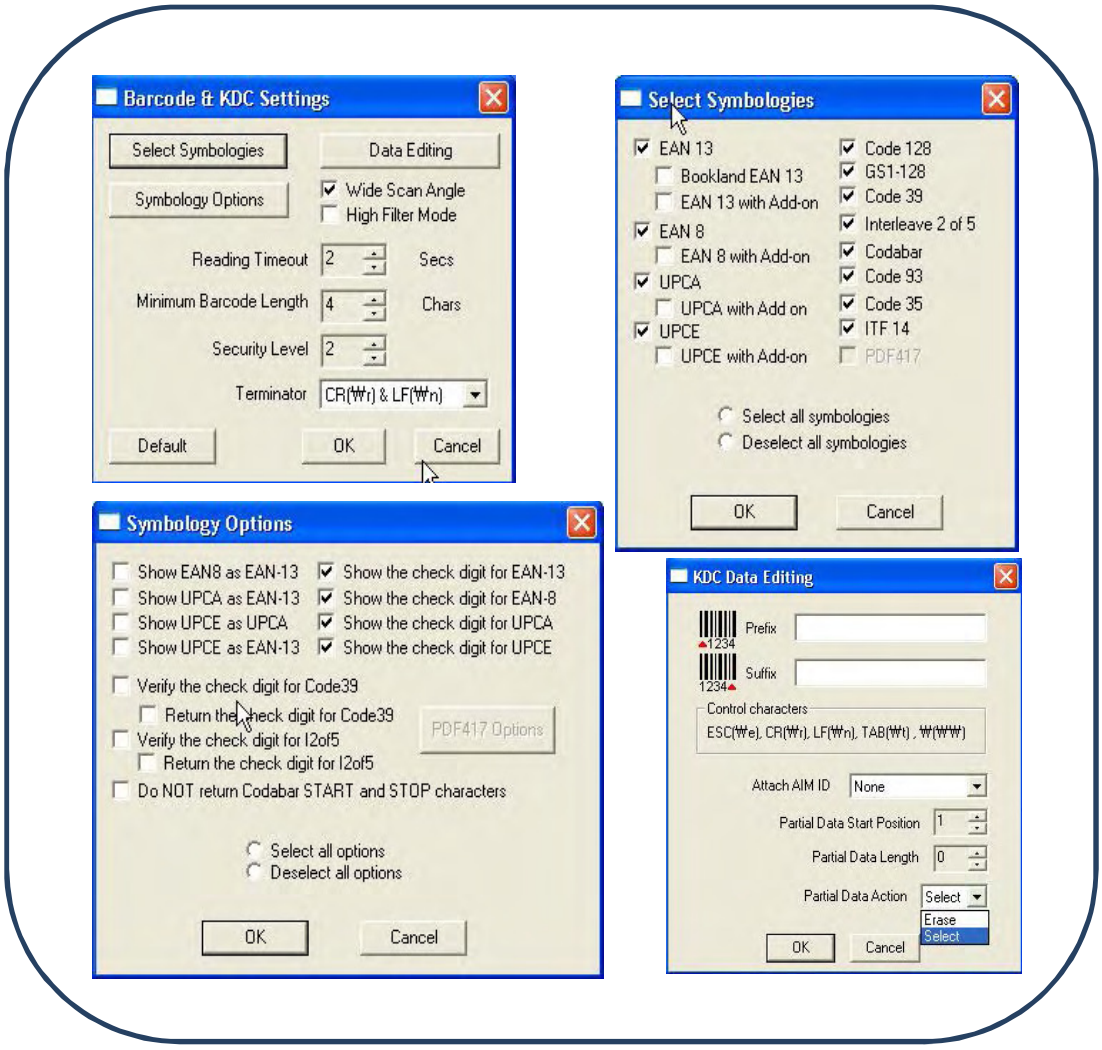


Figure 28 - Barcode & KDC Settings, Symbologies, Data Editing and Scan Options

WIFI Protocols

KDC350 WiFi model can send and receive data to/from host by using the following protocols.

- UDP
- TCP
- HTTP_GET
- HTTP_POST

In UDP/TCP mode, KDC350 will support full duplex mode, meaning is the KDC350 will be ready to get data from host all the time. It is only recommended when the KDC350 is running in charging mode all the time due to power consumption.

In HTTP, KDC350 will send data to host with GET or POST method.

WIFI Data Format

1. Storage Format

KDC350 WiFi model can store scanned barcode and RFID data into internal flash memory.
Current firmware doesn't store RFID data, but will support it soon.

The KDC350 WiFi model stores the read barcodes and RFID data in the internal flash memory in the following data format:

C0	Y0	D0	T0	C1	Y1	D1	T1	.....	.....	.....	.....	Cn	Yn	Dn	Tn

Where

- C0, C1,..., Cn

  Total number of each barcode record (C+Y+D+T) (2 bytes).

- Y0,Y1,..., Yn : Type of each barcode (1 byte) or RFID tag.
- D0,D1,...,Dn : Actual barcode data of each barcode (variable size) or RFID data
- T0, T1,...,Tn : Timestamp of each barcode (4 bytes) or RFID data

The timestamp field has 6 sub-fields as follows:

MSB

LSB

Years (6 bits)	Months (4 bits)	Days (5 bits)	AM/PM (1 bit)	Hours (4 bits)	Minutes (6 bits)	Seconds (6 bits)

Note:

(1) The base year is 2000. It means the year is 2000 if the Years field is 0.

(2) The Hours range is 0 – 11 and AM/PM bit 0 means AM, and 1 means PM

2. Sending Format

The KDC350 WiFi model sends barcode and RFID data to host with the following format.

1. Barcode only

- Real time data

TAG (0)	Data (N)

- Stored data

TAG (1)	Data Length (4)	Data (N)	.....	Data Length (4)	Data (N)

2. Packet Data

- Real time data

TAG (0)	UID (10)	Type (3)	Timestamp (14)	Data (N)

- Stored data

TAG (1)	UID (10)	Type (3)	Timestamp (14)	Data Length (4)	Data (N)	.....	Type (3)	Timestamp (14)	Data Length (4)	Data (N)

Where

- TAG(1 byte) ➔ This TAG is attached when “Send Stored” is enabled.
  - ‘0’: Real time data

- '1': Stored data

- UID(10 bytes)
  - It is a unique identifier of KDC350. It contains 10 digits of KDC350 serial number.
- Type(3 bytes) ➔ Decimal number of barcode type or RFID type
  - It says if the following data is a barcode or RFID.

    "000" – "111": Barcode data

    "112" – "125": RFID tag data
- Timestamp(14 bytes)
  - It is the timestamp of each barcode and RFID data and will be sent with the following format.

    YYYYMMDDHHmmSS
- Data Length(4 bytes)
  - The length of Data(N). "0000" to "9999".
- Data(N bytes)
  - The barcode data or RFID data.

KDC350 Wi-Fi Config Menu

	Screen	Comment
0	Power	Turn the Wi-Fi Module Power ON/OFF.
1	AP	Configure the AP
2	Server	Configure the server
3	Connect	Connect to the AP and server
4	Auto Connect	Enable/Disable auto reconnection
5	Send Stored	Enable/Disable sending stored data
6	Exit Menu	Return to previous menu

*All configuration is stored in the KDC350

1) Power

	Screen
0	Power
1	AP
2	Server
3	Connect
4	Auto Connect
5	Send Stored
6	Exit Menu

▸

	Screen	Comment
0	Enabled	Wi-Fi Power On
1	Disabled	Wi-Fi Power Off
2	Save & Exit	Confirm change
3	Cancel & Exit	Cancel

2) AP

	Screen
0	Power
1	AP
2	Server
3	Connect
4	Auto Connect
5	Send Stored
6	Exit Menu

▸

	Screen	Comment
0	SSID	AP SSID
1	Passcode	AP Passcode
2	Exit Menu	Exit

- The maximum number of characters for SSID and Passcode is 32.

3) Server

	Screen
0	Power
1	AP
2	Server
3	Connect
4	Auto Connect
5	Send Stored
6	Exit Menu

▸

	Screen	Comment
0	IP Address	Server IP address
1	URL Address	Server DNS name
2	Port Number	Server port number
3	Protocol	UDP/TCP/HTTP GET/HTTP POST
4	SSL(Security)	Enable/Disable
5	Server Page	HTTP Page
	Exit Menu	Exit

* Configuration for each protocol type

Protocol Type	SSL	Port Number	Server Page	Remarks
UDP	Not supported	User Setting	Not supported	
TCP	Enable	443	Not supported	
	Disable	User Setting		
HTTP GET HTTP_POST	Enable	80	Supported	
	Disable	443		

* Server Page

The GET and POST method uses the same server page. In POST, KDC sends the string after '?' to host before sending actual data. For example, the KDC sends 'data=' before data when the server page is as following.

/datacollector/InsertData.php?data=

4) Connect

	Screen
0	Power
1	AP
2	Server
3	Connect
4	Auto Connect
5	Send Stored
6	Exit Menu

▸

	Screen	Comment
0		
1		
2		
3	"Connected..."	
4		

* KDC will attempt to connect to the AP and Server configured in the "AP" and "Server" Menu.

5) Auto Connect

	Screen
0	Power
1	AP
2	Server
3	Connect
4	Auto Connect
5	Send Stored
6	Exit Menu

▸

	Screen	Comment
0	Enabled	Enables Auto Connect.
1	Disabled	Disables Auto Connect.
2	Save & Exit	Confirm
3	Cancel & Exit	Cancel

* The KDC will attempt to connect to the AP and server ten times when auto connection is enabled

6) Send Stored

	Screen
0	Power
1	AP
2	Server
3	Connect
4	Auto Connect
5	Send Stored
6	Exit Menu

▸

	Screen	Comment
0	Enabled	Enables to send stored data
1	Disabled	Disables to send stored data
2	Save & Exit	Confirm
3	Cancel & Exit	Cancel

* This option is only applied to HTTP_GET and HTTP_POST protocol.
* The KDC will send stored data after sending wedge data.

How to test data transmission

TCP

Step 1. Wi-Fi Module Power ON

Turn on the Wi-Fi module's power with "WIFI Config" -> "Power" -> "Enable".

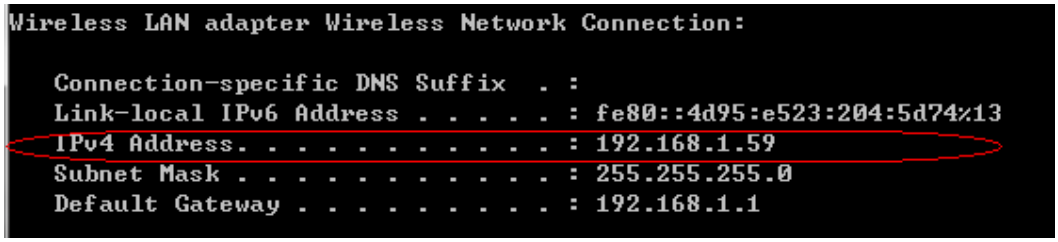
Step 2. Configure server information

① "WIFI Config" -> "Server" -> "IP Address" -> "192.168.X.XX"

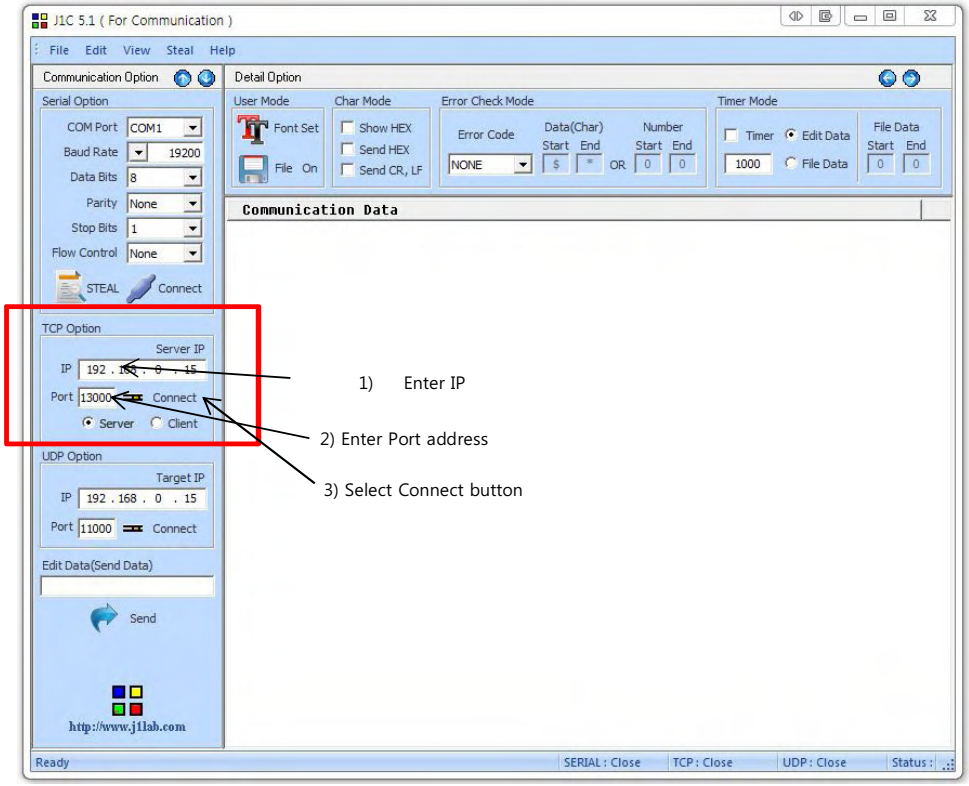
② "WIFI Config" -> "Server" -> "Port Number" -> "XXXXX".

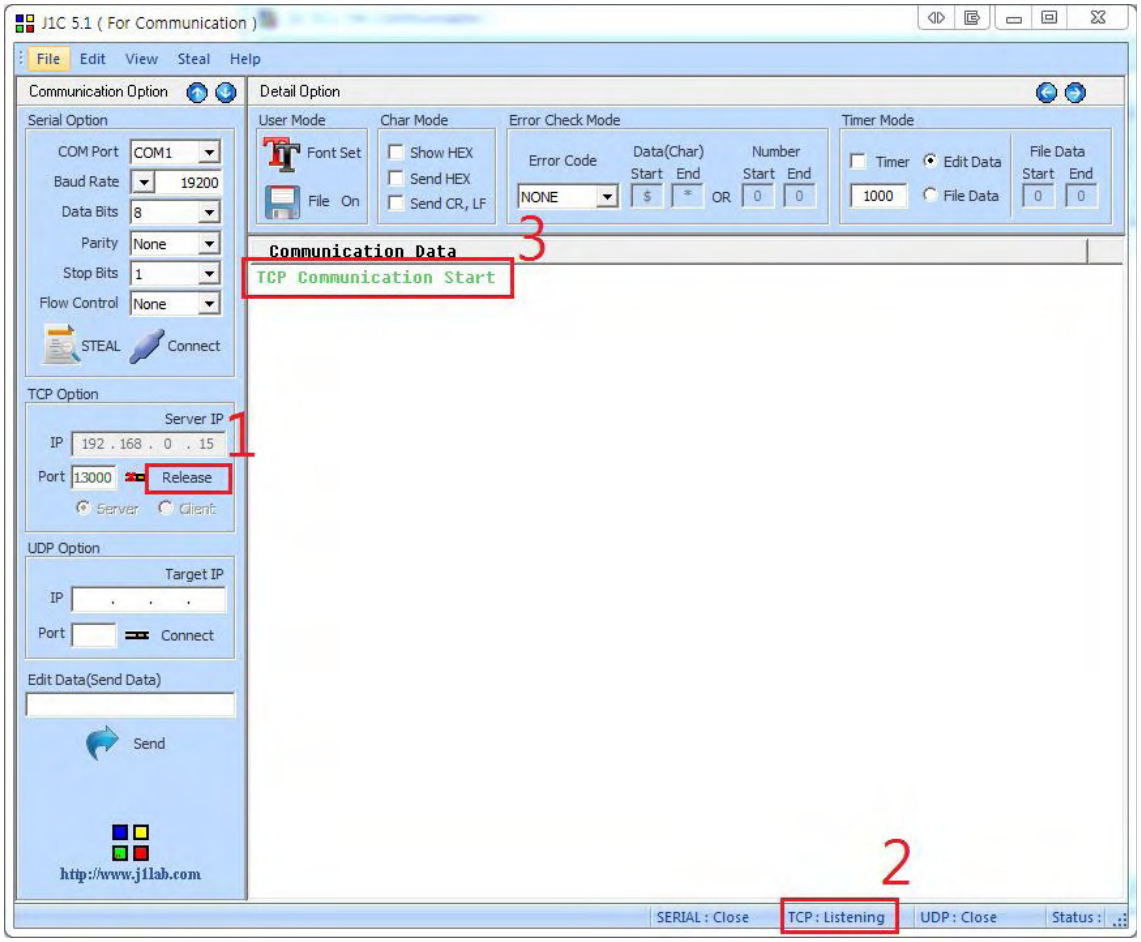
③ "WIFI Config" -> "Server" -> "Protocol" -> "TCP".

* Obtain the PC's IP address by opening the command prompt in the windows and searching "ipconfig"



* The port address and IP is defined in the following test application called “J1C”.



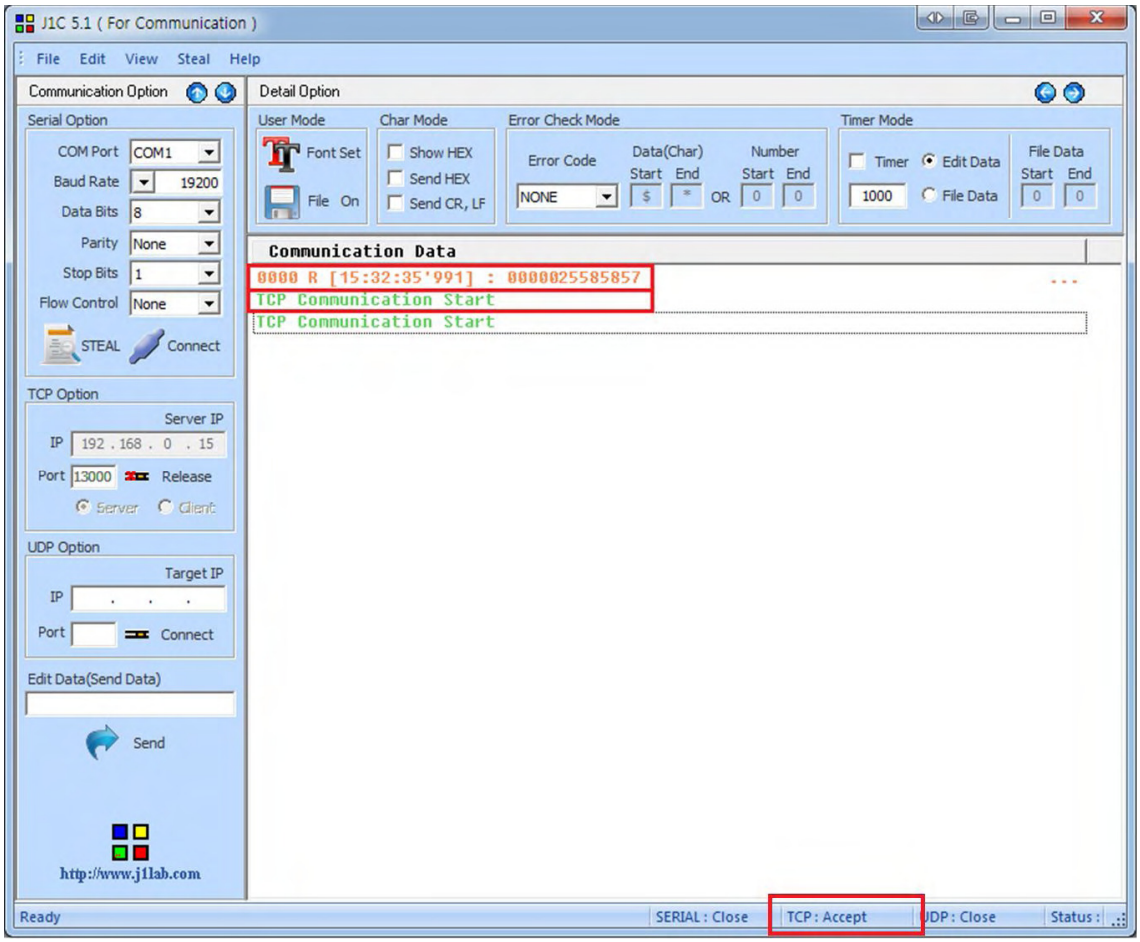


Step 3. Connect to server

① Run the test application “CommOp.exe” with TCP server listening mode.

*Be sure the status is in “Listening” as shown below.

② Connect the KDC to the server in “WIFI Config” -> “Connect”



*The status will be changed from “Listening” to “Connected” as shown above once the KDC is connected to the server.

Step 4. Send Barcode Data to server

① Scan a barcode

*The barcode sent from the KDC is displayed on the test application.

UDP

Step 1. Wi-Fi Module Power ON

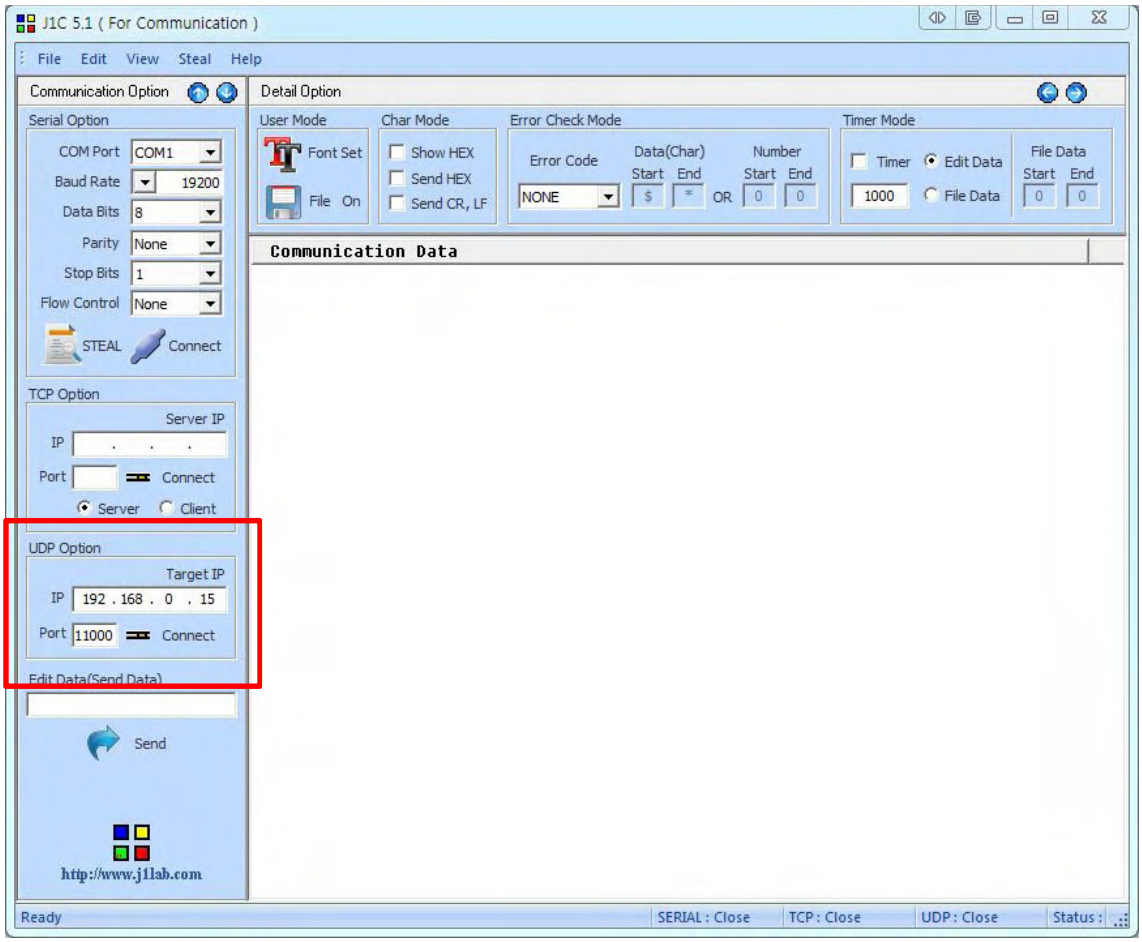
Turn on the Wi-Fi power module with "WIFI Config" -> "Power" -> "Enable".

Step 2. Configure server information

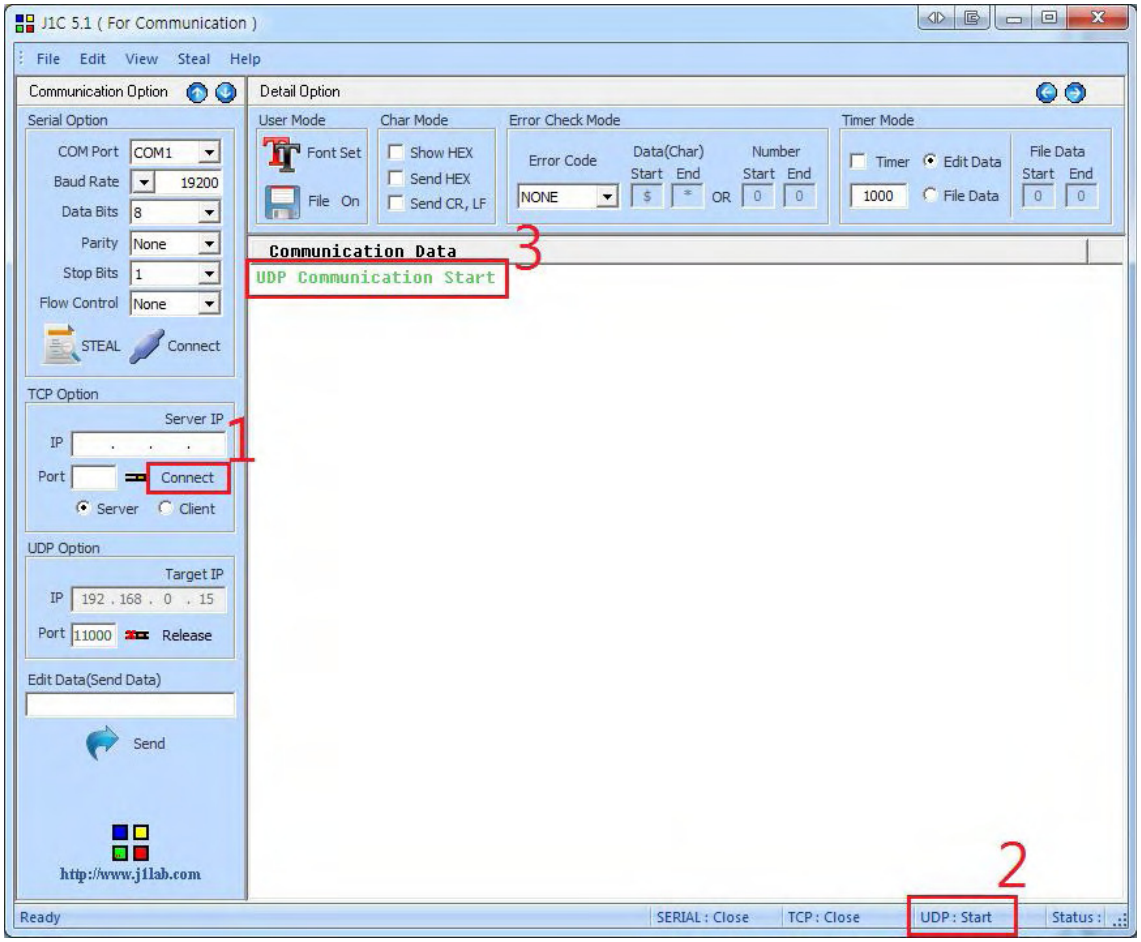
① "WIFI Config" -> "Server" -> "IP Address" -> "192.168.0.15"

② "WIFI Config" -> "Server" -> "Port Number" -> "11000"

③ "WIFI Config" -> "Server" -> "Protocol" -> "UDP"



* The port address is defined in the test application as following



Step 3. Connect to server

① Run the tester application "J1C" with UDP mode chosen

② Connect the KDC to the server in "WIFI Config" -> "Connect"

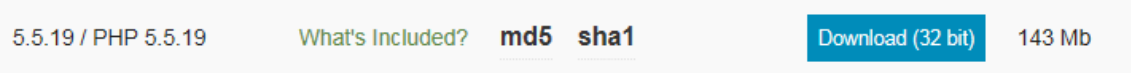
Step 4. Send barcode data to server

Scan barcode and the barcode will be displayed..

HTTP GET&POST

1) Install Apache Server(XAMPP)

Download the installer from http:www.apachefriends.org/en/xampp-windows.html



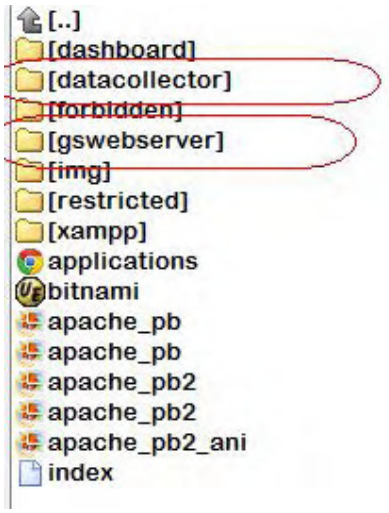
2) Run XAMPP Control Panel and make sure both Apache and MySQL can be started as shown on the following screen. If it is unable to start, terminate all other online programs, such as skype.

3) Copy web server program into XAMPP.

Unzip the two files below and copy them into c:/xampp/htdocs

1. Gswebserver.zip
2. Datacollector.zip

Be sure the directory list looks like the following



Make sure that the Apache server has been installed correctly by accessing http://localhost/gswebserver/index.html. You should see the following screen.

4) Set up SSL

Unzip the certificates.zip.

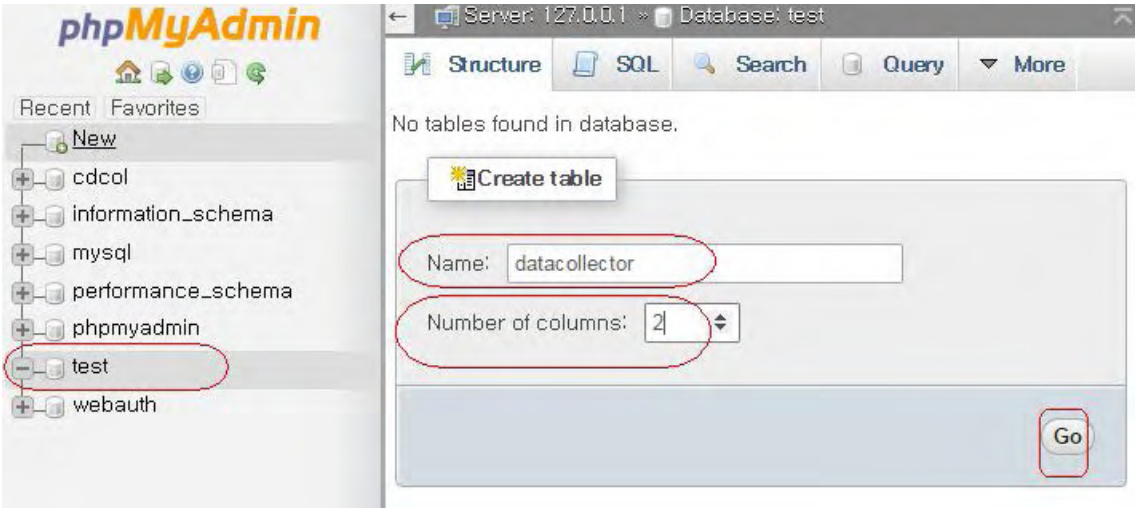
- Copy 'server.crt' into /xampp/apache/conf/ssl.crt
- Copy 'server.key' into /xampp/apache/conf/ssl.key
- Make sure the following 3 lines are in /xampp/apache/conf/extra/http-ssl.conf.

```
# SSL Engine Switch:
# Enable/Disable SSL for this virtual host.
SSLEngine on
```

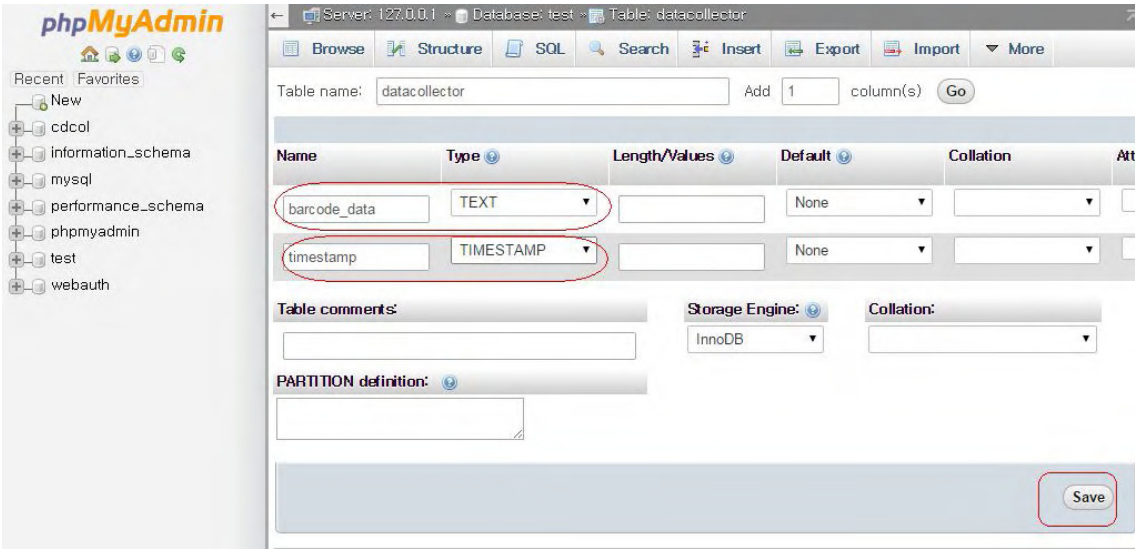
5) Setup the SQL DB

Enter the MqSQL configuration by pressing "Admin" in XAMPP as shown

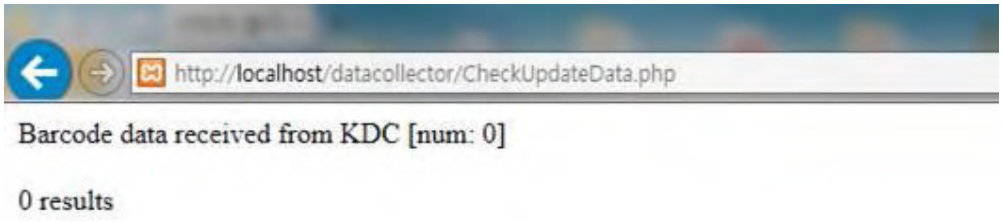
Select "test" and press 'Go" button after entering "datacollector" in Name, and "2" in the Number of columns in the following screen.



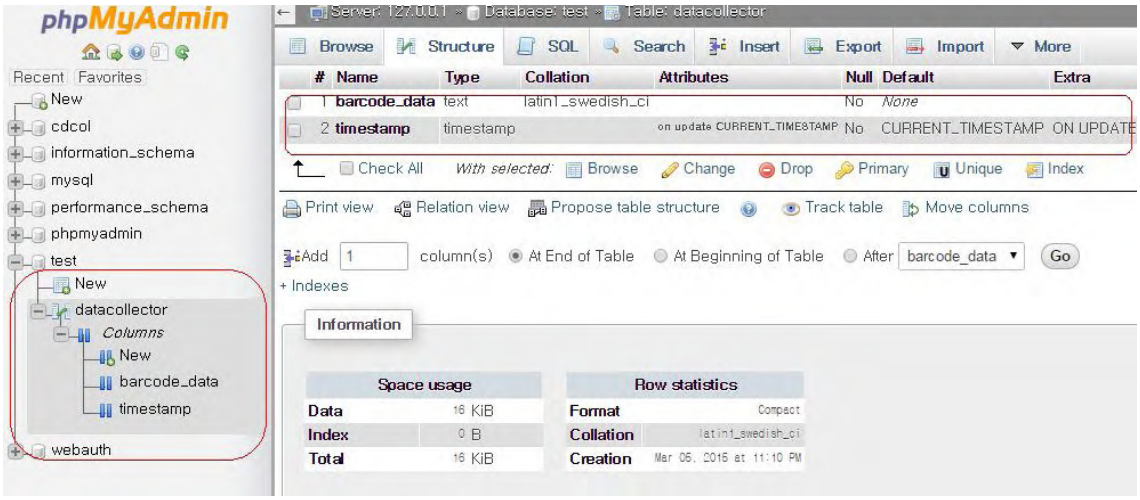
Enter the following name and type as shown below, then click "Save".



Once Save is completed, the following screen will display.



If everything is installed properly, the following screen will display while opening: http://localhost/datacollector/CheckUpdateData.php.



6) Send data from KDC to server

Configure the KDC350 settings as follows:

- IP Address: Server IP address
- Port: 80(HTTP) if SSL is disabled, 443(HTTPS) if SSL is enabled.
- Server page: /datacollector/InsertData.php?data=

[Note]

- Set the KDC date to March 1st, 2015 when using provided certificates.
- Rename InsertData.php.GET when using HTTP GET method.
- Rename InsertData.php.POST when using HTTP POST method.

Data Format

3.1 Storage Format

KDC350 WiFi model can store scanned barcode and RFID data into internal flash memory.
Current firmware doesn't store RFID data, but will support it soon.

The KDC350 WiFi model stores the read barcodes and RFID data in the internal flash memory in the following data format:

C0	Y0	D0	T0	C1	Y1	D1	T1	…..	…..	…..	…..	Cn	Yn	Dn	Tn

Where

- C0, C1,…, Cn

  Total number of each barcode record (C+Y+D+T) (2 bytes).
- Y0,Y1,…, Yn : Type of each barcode (1 byte) or RFID tag.
- D0,D1,…,Dn : Actual barcode data of each barcode (variable size) or RFID data
- T0, T1,…,Tn : Timestamp of each barcode (4 bytes) or RFID data

The timestamp field has 6 sub-fields as follows:

MSB LSB

Years (6 bits)	Months (4 bits)	Days (5 bits)	AM/PM (1 bit)	Hours (4 bits)	Minutes (6 bits)	Seconds (6 bits)

Note:

(1) The base year is 2000. It means the year is 2000 if the Years field is 0.

(2) The Hours range is 0 – 11 and AM/PM bit 0 means AM, and 1 means PM

3.2 Sending Format

The KDC350 WiFi model sends barcode and RFID data to host with the following format.

3. Barcode only

- Real time data

TAG (0)	Data (N)

- Stored data

TAG (1)	Data Length (4)	Data (N)	…….	Data Length (4)	Data (N)

4. Packet Data

- Real time data

TAG (0)	UID (10)	Type (3)	Timestamp (14)	Data (N)

- Stored data

TAG (1)	UID (10)	Type (3)	Timestamp (14)	Data Length (4)	Data (N)	…….	Type (3)	Timestamp (14)	Data Length (4)	Data (N)

Where

- TAG(1 byte) ➔ This TAG is attached when “Send Stored” is enabled.
  - ‘0’: Real time data
  - ‘1’: Stored data
- UID(10 bytes)
  - It is a unique identifier of KDC350. It contains 10 digits of KDC350 serial number.

- Type(3 bytes) ➔ Decimal number of barcode type or RFID type
  - It says if the following data is a barcode or RFID.

    “000” – “111”: Barcode data

    “112” – “125”: RFID tag data
- Timestamp(14 bytes)
  - It is the timestamp of each barcode and RFID data and will be sent with the following format.

    YYYYMMDDHHmmSS
- Data Length(4 bytes)
  - The length of Data(N). “0000” to “9999”.
- Data(N bytes)
  - The barcode data or RFID data.

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.

Data Editing Option

Prefix - Allows the user to add a prefix to scanned data that 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 that appends the prefix to data during synchronization.

Suffix - Allows the user 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 that appends the suffix to data during synchronization.

AIM ID - Allows the user 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 the user to display and store partial data. The 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*** selects 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*** erases all characters from ***y*** position.

Other Settings

Other options under the Settings menu allow the user 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 it to the tray upon execution.
- **Keep Checking *Bluetooth* Connection** allows reconnection of KDC once *Bluetooth* signal is detected. This feature is useful when moving to or from *Bluetooth* host device frequently. KTSync will automatically reconnect *Bluetooth* connection when the user enter an effective *Bluetooth* network range. *(Not Available on KDC100)*

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

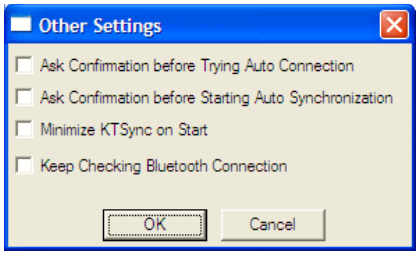


Figure 19 - KTSync® Confirmation Settings

KDC Menu in KTSync (KDC20/400)

After connecting KDC 20/400 to PC with a USB cable, run KTSync on your PC and you will see **KDC Menu** on the right side of KTSync window. Click **KDC Menu**, and you can configure your KDC20/400 in KDC Menu window, as shown below.

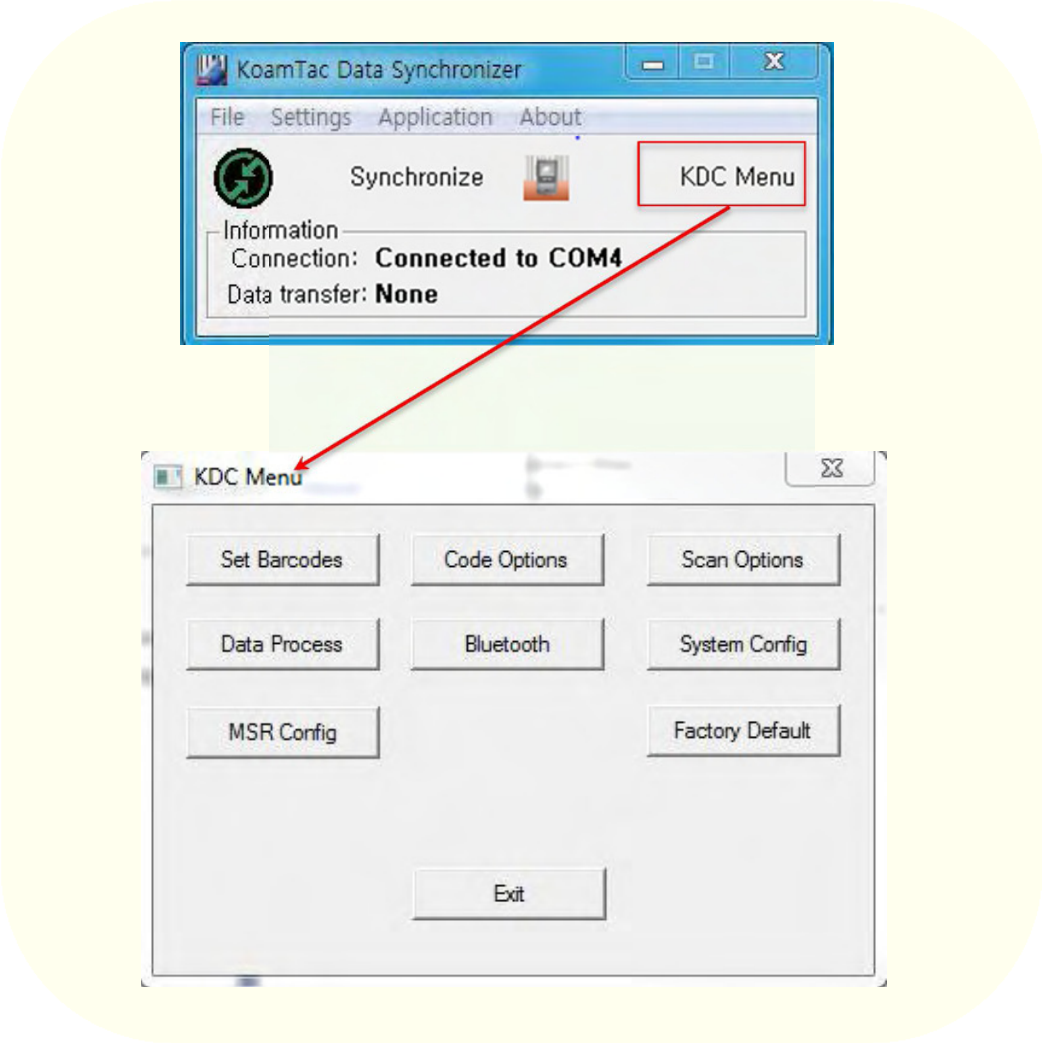


Figure 20 - KDC Menu in KTSync (KDC20/400)