SmartDEX

User Guide

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SMARTDEX
USER GUIDE

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Revision History

Changes to the original guide are listed below:

Change	Date	Description
Rev A	8/2016	Initial release.

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ABOUT THIS GUIDE

Introduction

What is DEX?

Direct EXchange (DEX) is a digital communication protocol that extends the Uniform Communication Standard (UCS), it enables direct store delivery drivers to transmit digital invoices to the retailer's receiving clerk at the loading dock.

Created by the Uniform Code Council (UCC), DEX has been adopted by most national grocery chains. This standardized system reduces time, costs and inaccuracies inherent in paper invoices. Originally designed in the early 1980's, the DEX protocols have been revised several times over the years. The most current version is 5030 version, released in 2006. Unfortunately, adoption of protocol upgrades has been un-even in the marketplace, requiring DEX software to be adaptable to the specific requirements of each retailer served.

SmartDEX Powered by Versatile

SmartDEX solution is a hardware and software bundle combining Android handheld computers from Zebra and embedded DEX software from Versatile Mobile Systems.

Since the late 1990's Versatile Mobile Systems has offered DEX software solutions on every major mobile operating system, including DOS, Pocket PC, Windows Mobile, and now, Android.

SmartDEX on Android is currently available only as an embedded client. This means that SmartDEX must be called from a parent route or delivery application. That application must supply the necessary invoice data to SmartDEX in order to run a DEX session.

In order to cover all versions of the DEX servers used by retailers today, SmartDEX is compliant with all UCS protocols from version 4010 to 5030.

All versions of SmartDEX use two types of data:

- **Route Data** - The Route Data contains all information and invoices for a single route. The data is stored as a text file with simple formatting that can be imported and/or exported by a large number of programs. Your system will need to create the route (invoice) data in this format for the DEX Mobile Client. (see Appendix A)
- **Results Data** - The Results Data is generated by the Mobile Client. This data contains the delivery notification and adjustments for DEX sessions performed using the mobile device. This data can be easily

imported by your handheld application if detailed histories of adjustments and results of DEX sessions are required (Refer to *SmartDEX Integration Guide* for more information).

Chapter Descriptions

Topics covered in this guide are as follows:

- *Chapter 1, Registration*, provides information on the registration process.
- *Chapter 2, Configuration Settings*, explains how to configure the SmartDEX settings.
- *Chapter 3, Running SmartDEX on Android*, explains how SmartDEX runs on a Android device.
- *Chapter 4, Program Flow*, describes the SmartDEX program flow.
- *Chapter 5, Adjustments*, details how to view invoice adjustments.
- *Chapter 6, Completion*, describes what occurs at the end of a session.

Notational Conventions

The following conventions are used in this document:

- *Italics* are used to highlight the following:
  - Chapters and sections in this guide
  - Related documents
- **Bold** text is used to highlight the following:
  - Dialog box, window and screen names
  - Drop-down list and list box names
  - Check box and radio button names
  - Icons on a screen
  - Key names on a keypad
  - Button names on a screen.
- Bullets (•) indicate:
  - Action items
  - Lists of alternatives
  - Lists of required steps that are not necessarily sequential.
- Sequential lists (e.g., those that describe step-by-step procedures) appear as numbered lists.

Related Documents and Software

The following documents provide more information about the SmartDEX application.

- *SmartDEX Integrator Guide*, p/n MN-002802-xx
- *DEX Scan & Pair User Guide*, p/n MN-002803-xx

For the latest version of this guide and all guides, go to: http://www.zebra.com/support.

Service Information

If you have a problem with your equipment, contact Zebra Global Customer Support for your region. Contact information is available at: http://www.zebra.com/support.

When contacting support, please have the following information available:

- Serial number of the unit
- Model number or product name
- Software type and version number.

Zebra responds to calls by email or telephone within the time limits set forth in support agreements.

If your problem cannot be solved by Zebra Customer Support, you may need to return your equipment for servicing and will be given specific directions. Zebra is not responsible for any damages incurred during shipment if the approved shipping container is not used. Shipping the units improperly can possibly void the warranty.

If you purchased your Zebra business product from a Zebra business partner, contact that business partner for support.

CHAPTER 1 REGISTRATION

Introduction

This chapter provides instructions on the registration process.

Registration

After the SmartDEX client has been successfully installed onto the mobile device, the client license must be registered before using the software. Registration of the client license requires valid account login credentials which are provided by Zebra.

The embedded version of the SmartDEX client is intended to be started by another program (the application). However, to simplify the registration process, it may be started directly (manually).

4. From the Home screen touch .

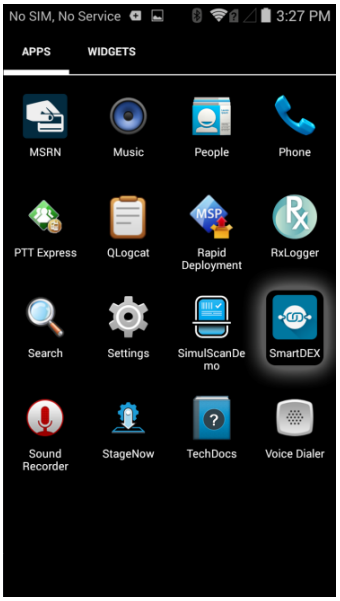

Figure 1-1 *Applications Screen*

4. Touch the SmartDEX icon. SmartDEX opens in marketing mode. A series of nine informational screens displays.

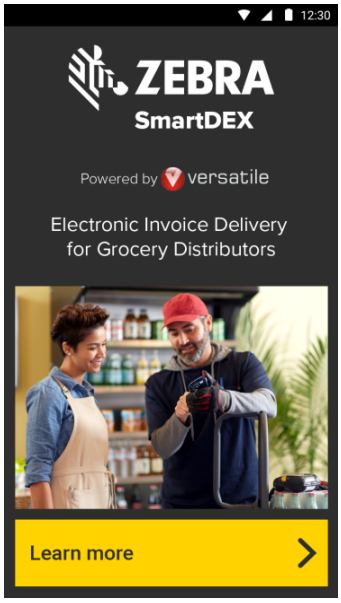

Figure 1-2 *Informational Screens*

4. Touch **Activate SmartDEX** on any of the screens to navigate to the registration screen.

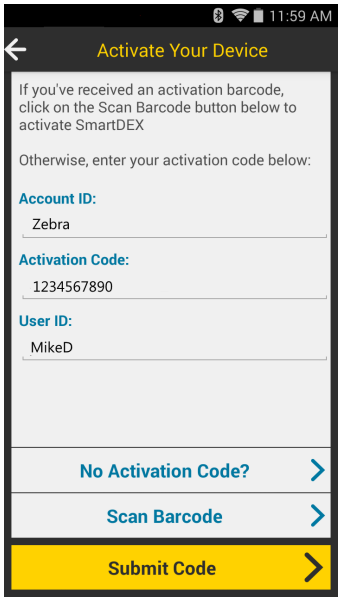

Figure 1-3 *Activate Your Device*

4. Enter the **Account ID** (case sensitive), and the **Passkey** (not case sensitive), a **User ID** then touch **Submit Code**.

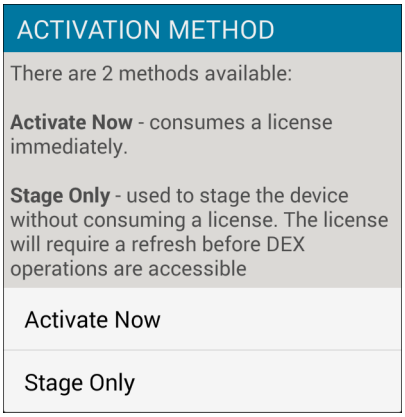

Figure 1-4 *Activation Method Dialog Box*

4. Touch **Activate Now** or **Stage Now**.

4. If the data was entered correctly, and a client license was available, a confirmation message displays.

NOTE The Account ID and Passkey are obtained by the agreement with Zebra. If an activation QR code has been provided, it may be scanned now to fill the Account ID and Activation Code fields.

The User ID can be anything useful to help identify the user of the device.

The registration process takes just a few seconds. Please ensure that the device has been configured and enabled to access the internet before attempting to register.

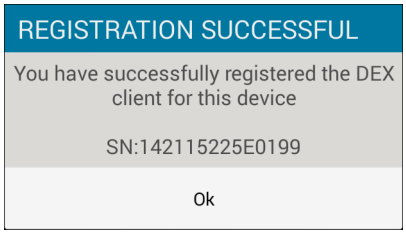

Figure 1-5 *Registration Successful*

NOTE If registration was not successful, an error message displays. Touch **Ok. A** warning message indicates the cause of the error.

CHAPTER 2 CONFIGURATION SETTINGS

Introduction

This chapter provides instructions on configuring the settings.

NOTE Settings may also be accessed from the main screen by touching the padlock icon in the upper menu bar area.

Settings

To configure the settings:

1. From the **Apps** screen, touch the **SmartDEX** icon.
2. Touch **Settings**.

NOTE If the client is currently registered, an Invalid Startup message displays. There will only be a choice between Unregister device, or Cancel (exit). If the client is not registered, touch **OK** to switch to the Registration Screen.

The **Settings** screen allows the user to choose the interface method preferred for handling DEX server communications. By default, Serial is selected.

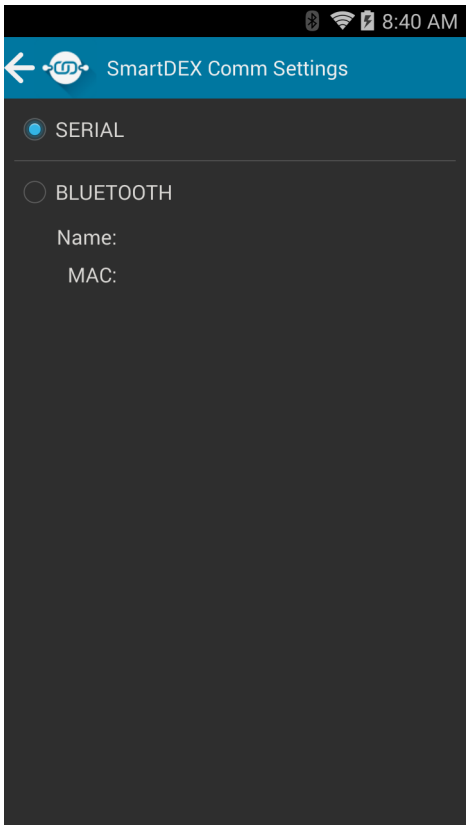

Figure 2-1 *DEX Communication Settings*

The following devices are certified to work with SmartDEX client, however others may also work. Please contact Versatile Systems to have a different item certified by our team.

Table 2-1 *Versatile Systems Certified Devices*

Connection	Device
Serial	Zebra, 25-45793-01R
Bluetooth	Serial IO BlueSnap-AAA FireFly-BP RS232

Bluetooth Communications

To configure a Bluetooth serial device:

1. Select the **Bluetooth** option.
2. Touch **the Settings icon**.

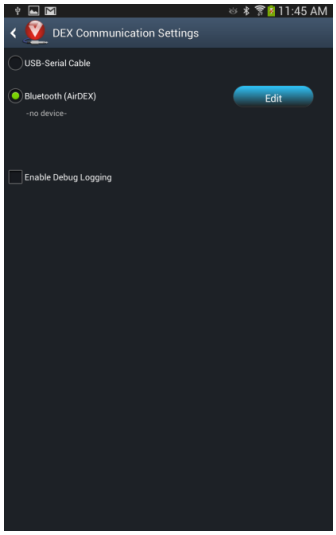

Figure 2-2 *Bluetooth Option*

3. Touch **Find available devices**. The Bluetooth discovery begins. If any devices are found, the list contains information about each device.

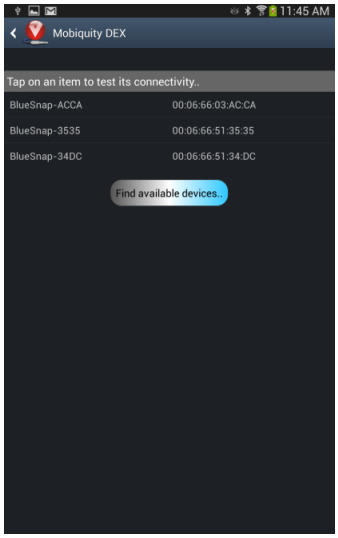

Figure 2-3 *Find Available Devices*

4. Touch a device to test its connectivity.

NOTE If the connection test fails, it will be necessary to try again, or try a different device.

5. Touch **Yes** to use that device.

NOTE The first time the client initiates a connection with the device, a system message may display asking if it should open this application for this connection. Check the **Use by default for this USB device** checkbox and touch **OK** (this will suppress any future popups).

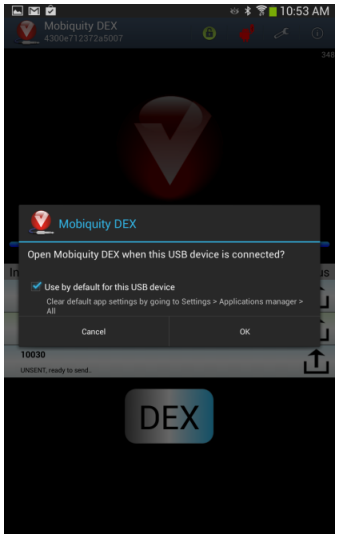

Figure 2-4 *Connection Dialog Box*

Troubleshooting

Tracing software problems encountered by field personnel is always a difficult task. To make this process easier for our customers and our developers, SmartDEX on Android is able to log all system events. This tool is normally turned off to prevent the log file from growing to an unmanageable size. To start logging, check the **Enable Debug Logging** checkbox on the communications settings screen prior to a debugging test session. A detailed log file is created in the **Download** folder. Debugging always resets back to off each time the DEX client is started.

Please contact Zebra Customer Service for more information.

CHAPTER 3 RUNNING SMARTDEX ON ANDROID

Introduction

The embedded mode of SmartDEX on Android only operates when launched from a peer program. To understand how to perform this task, see *SmartDEX Integration Guide.*

In Embedded mode, it is the responsibility of the parent (peer) program to manage the PRE / POST operations of the DEX transactions, to create the route data script and to start SmartDEX when ready to perform transactions with a DEX server. When the session is complete and SmartDEX exits, interpret the results of the transactions by reviewing a DEX_RESULTS.TXT file. See *SmartDEX Integration Guide* for additional details.

When SmartDEX is first starts, it reads and verifies that the ROUTE data format is valid and complete. If any parsing errors are detected, the data is flagged as unusable and an error message displays. Selecting **Ok** terminates the application, and broadcasts an event (DEX_FINISHED) to the peer program.

If the data is accepted, the client displays a list containing the invoice(s) and is ready to continue.

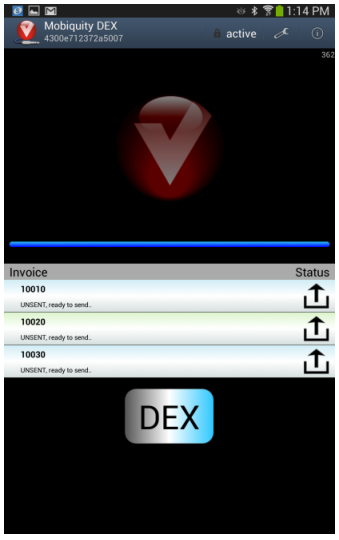

Figure 3-1 *Invoice List*

Touch any of the invoice list items to view additional details.

Figure 3-2 *Detailed Invoice List*

CHAPTER 4 PROGRAM FLOW

Each invoice item in the list displays its current state, whether it's ready to SEND or RECEIVE.

1. Touch the **DEX** button when ready to begin.

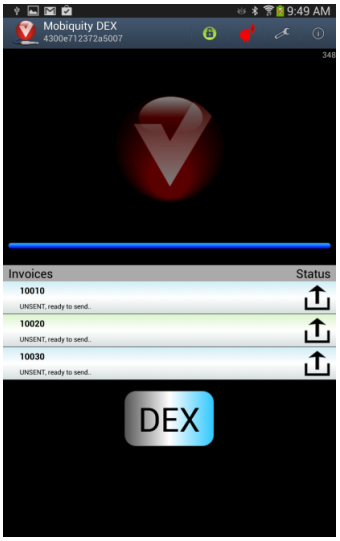

Figure 4-1 *DEX Not Ready Status*

NOTE If the currently configured communications interface is not ready to communicate, a warning message displays informing the user of the status. The connection status icon in the menu bar always indicates the current status of the configured interface method (GREEN = ready, RED = not ready).

If for any reason there is a problem with the selected communication method, an error message displays.

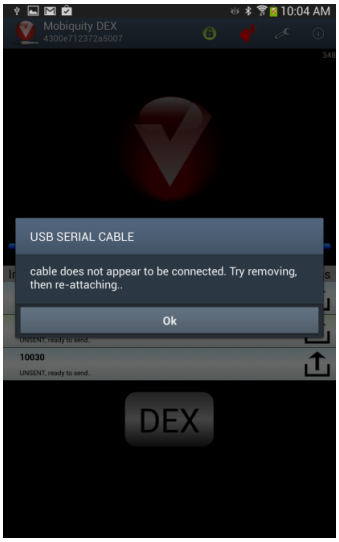

Figure 4-2 *Communications Error*

2. When the icon is green, you are ready to communicate.

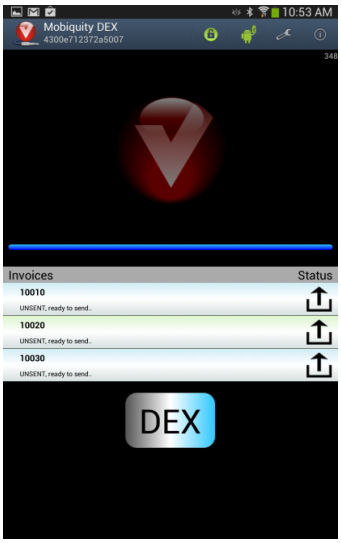

Figure 4-3 *DEX Ready Status*

NOTE If the connection is successful and ready to continue, the user is directed to connect the DEX interface device (cable or Bluetooth) to the receiver's DEX port.

3. Touch **Ready to DEX** to start the DEX transaction.

Figure 4-4 *Ready to DEX*

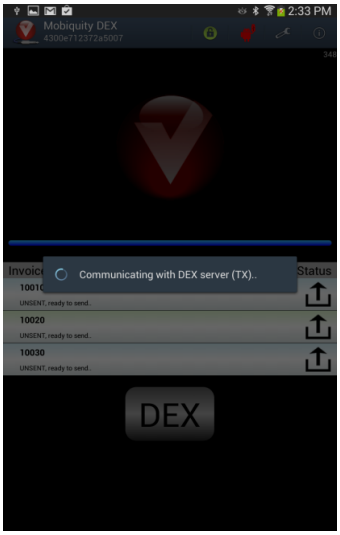

Figure 4-5 *Communicating with DEX Server*

When the transaction is complete, the invoice status of each invoice is updated to reflect the result of the transaction event.

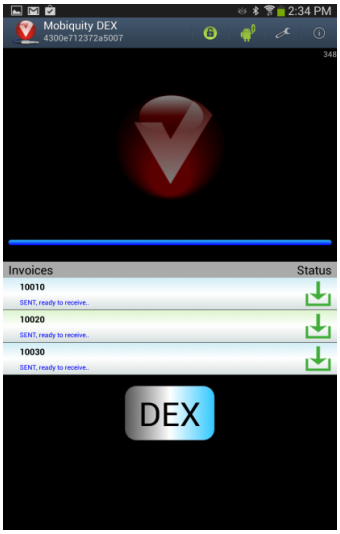

Figure 4-6 *Invoice Status Screen*

The user continues to initiate DEX transactions (as directed by the receiving clerk) until all invoices have acquired the CLOSED status. When all invoices have attained the CLOSED status, the client application exits automatically (by default). To change this behavior, go to the **Settings** screen.

CHAPTER 5 ADJUSTMENTS

Introduction

This sections details how to view invoice adjustments.

Adjustments

To view adjustments:

1. From the Invoice Status screen, touch an invoice list item.

Figure 5-1 *Invoice Status Screen*

NOTE If any user-initiated or server-sided adjustments are received, the option **View Adjustments** is enabled in the View Invoice Detail screen in the upper-right hand portion of the menu bar.

2. Touch **View Adjustments**.

Figure 5-2 *Invoice Details*

Figure 5-3 *Adjustments*

CHAPTER 6 COMPLETION

The DEX session is considered complete when all invoice states have been set to **CLOSED**. If the user attempts to exit the program before all invoices have been closed, a warning message displays.

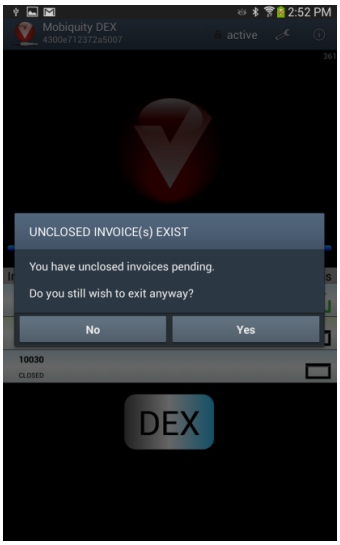

Figure 6-1 *Unclosed Invoice(s) Message*

When SmartDEX exits, a specific notification is broadcast to the device system to notify any receivers or listeners that are waiting on it. Details of any adjustments or changes are recorded in the DEX_RESULTS.TXT file.

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