# SmartSource Demo
# Installation and Operation Guide

**Version 9.3.2**

**April 2017**

# Table of Contents
*(Each heading is a hyperlink to its specific section)*

The following manual describes the steps to install the Digital Check SmartSource scanner and the associated Demo Program.

## 1) Guide Change History

| Version | Date | Changes |
|---------|------|---------|
| **9.3.2** | April 2017 | Feeder Options: A single feed operation can now be selected. |
| **9.3.1** | April 2017 | Feeder Options: Professional Elite and Micro Elite scanners now support a "Feed Any" mode, where items can be processed from either the primary entry or the ID Card entry. |
| **9.3.0** | November 2016 | The Demo now supports Expert scanners. This document has been rebranded to Digital Check |
| **9.1.2** | January 2015 | The Demo now defaults to enhanced quality for front and rear images. |
| | | The Demo now defaults to automatic flipping and rotating of front and rear images. |
| | | The Pre-Configured Endorser demo selection now endorses an auto-incrementing sequence number as well as the current date and time. |
| | | When the Demo software is installed via the DigitalCheckDemoSetup.exe installer, the following enhancements are enabled in the \Patching\device.ini file:<br>• Image brightness and contrast are enhanced.<br>• The JPEG quality settings are obtained from \Patching\device.ini, not from the Image Options settings in the Demo program.<br>• Enhanced CCITT thresholding settings for Regions-of-interest are enabled for four sample documents defined in the \Patching\AltTDocs.txt file.<br>• The perfectly-overlapped double document algorithm is enabled for all scanners. |
| **9.0.2** | June 2013 | Image file names changed - the third character changed from a period (.) to an underscore (_). |
| **9.0.1** | April 2013 | Instructional Videos link updated. |

| | | |
|---|---|---|
| | | ID Card operation for SmartSource Elite: Pre-Config and Feeder options. |
| **9.0.0** | September 2012 | Initial revision. |

## 2) Hardware Unpacking and Setup

Click on the following hyperlink to view the SmartSource Open Professional Series hardware unpacking and installation video:

Hardware Setup Video

Below is a picture of the back of the scanner and how to make the necessary cable connections. **This should not be completed until the Demo Program has been loaded on the PC.**



## 3) SmartSource Demo Software Setup Instructions

*Make sure the SmartSource is turned off and the USB cable is disconnected before beginning the install of this package.*

Run "DigitalCheckDemoSetup.exe" as administrator to install the USB driver and the Demo program. At the end of the install, you will be prompted to reboot the PC. Once the PC is restarted, the setup of the demo program will be completed. Make sure the SmartSource scanner is turned off and plug in the USB cable or the Ethernet cable to the PC. Turn on the SmartSource. For USB scanners, the PC will indicate it has found a new USB device, then display "SmartSource Pro/Value" and finally load the associated USB Drivers. You will see this screen:
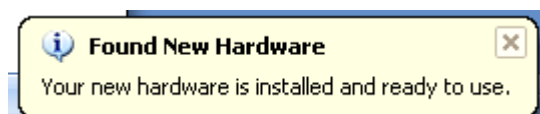
## 4) SmartSource Demo Software Operation

### a. How to Start the Demo

Check if there are any applications running that might use the SmartSource device (e.g. SmartSource CAPI) and terminate those applications.
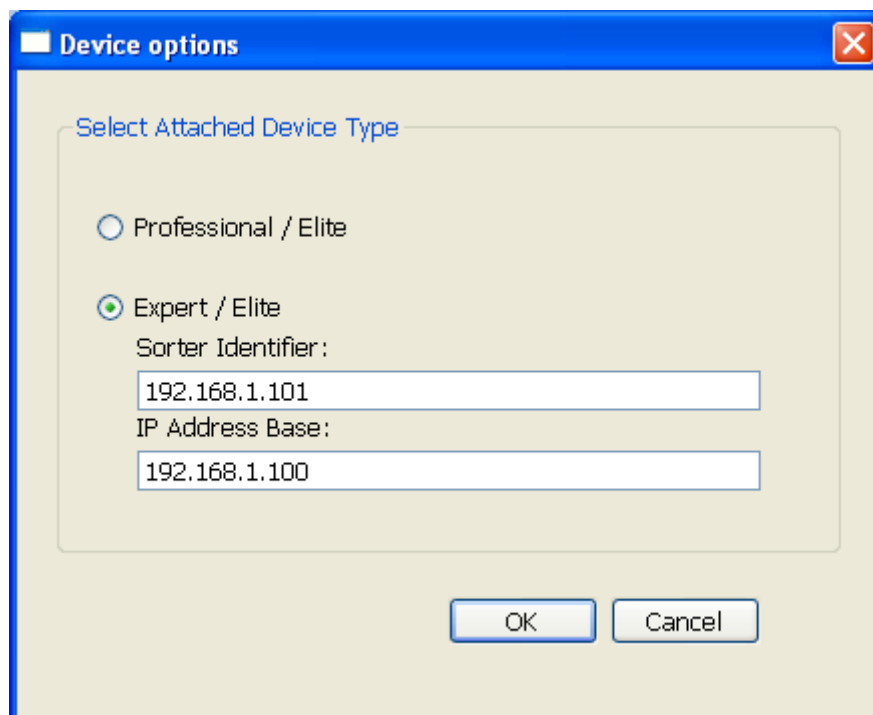
Double click on this Desktop ICON that you created during the Demo install to start the Demo application.



If you get the Security Warning message, just click "RUN".

### b. Scanner Selection

When the program begins, the following scanner selection screen is displayed:

USB scanners: Select Professional/Elite and click OK.

Ethernet scanners: Select Expert/Elite. Type the IP address of the Ethernet scanner in the Sorter Identifier field, type the IP address of the network card that the scanner is attached to in the IP Address Base field, then click OK. If the Ethernet scanner fails to connect, make sure incoming TCP traffic on ports 50001-50009 is enabled in the firewall on the SmartSource Demo PC.

## c. Overview of Demo Window

Once you've selected a scanner, the following main screen will display. A description of each section follows.
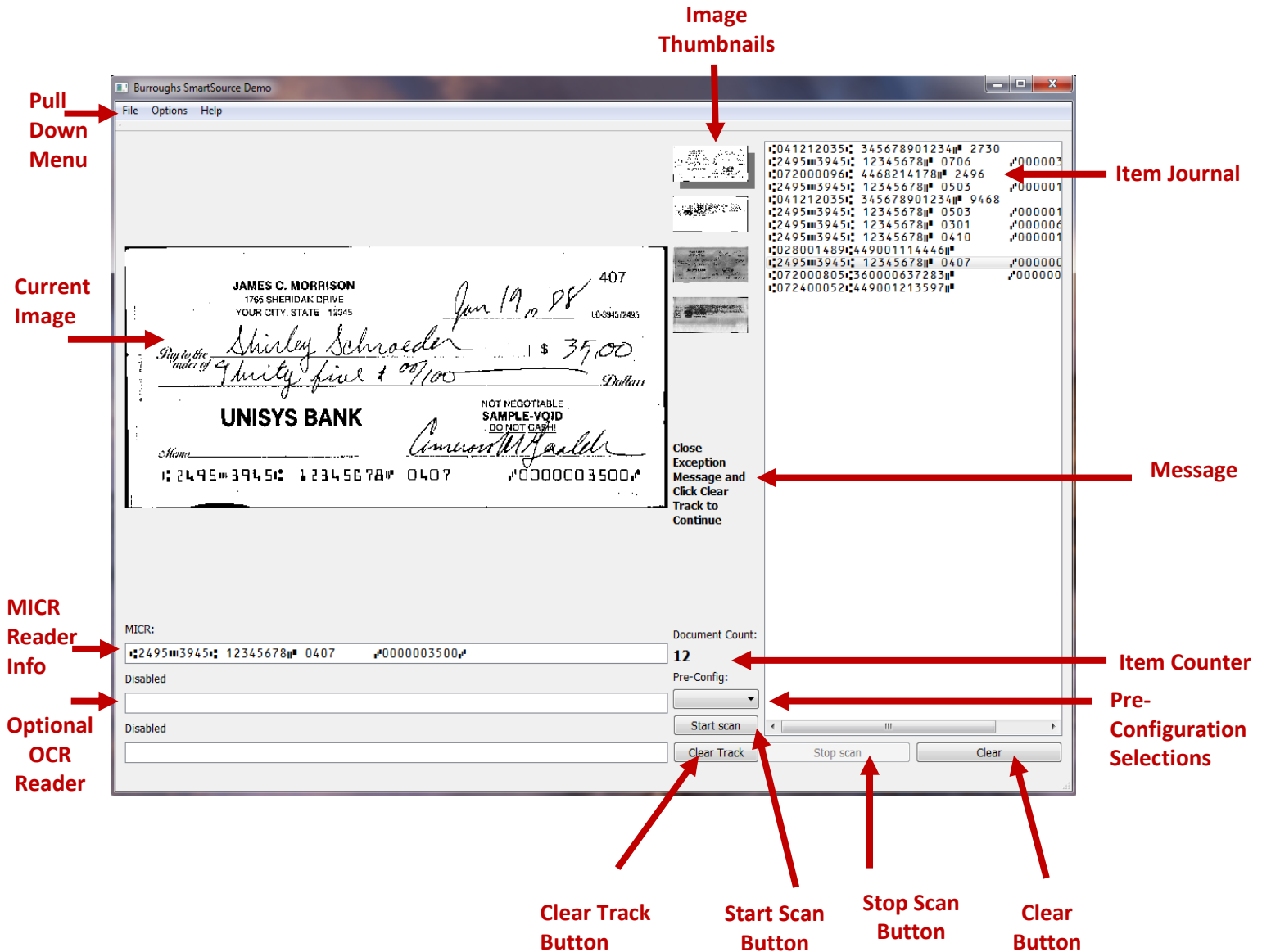
## i.    Start Scan Button

Click on this button to start the scanning operation.  By default, automatic detection of items is enabled. Therefore when the operator puts items in the hopper, the scanner will automatically begin to feed items. There may be a slight delay the first time the Start Scan Button is pressed. The scanner firmware is downloading and initializing during this time.

## ii.    Stop Scan Button

By clicking on this button, the scanning process will stop.  The operator can click on Start Scan Button to start flow again.  Once the Stop Scan Button is clicked, the Clear Button and the Options Menu are available for use.

## iii.    Clear Button

This option is enabled when the Stop Scan Button had been clicked.  Clicking the Clear Button will clear the current image captured and the item journal. The item counter will also reset back to 0. Since the image file name has a fixed format based on the item count, the previously stored image file will be overwritten by the new items. To avoid this, the operator should specify his/her subfolder name between each batch run so the images will be saved in different location.

## iv.    Clear Track Button

This button can be used to try to clear the track in case of a jam.  It will initiate the scanner to try to eject any items left in the track. By default, the "SmartClear" button on the top of the scanner is disabled and the scanning will resume when documents are in feeder. If the "SmartClear" button is enabled through the Feeder Options by un-checking the "Disable start button" and setting the "Autofeed timeout" to 0, the operator will need to press the "SmartClear" button to start flowing documents.

## v.    Message

This displays informational, warning and exception messages.

## vi.    Pre-Config

The Pre-Config selections offer the pre-configured settings for device features that the operator can select and run without manually setting the options through the Pull Down Menu. Typically, one Pre-configuration selection demonstrates one device feature.
Below are the currently available pre-configuration options:

- **MOCR**
  This configuration enables three readers in the Reader Options so that Reader1 returns the combined MICR and OCR code line result, Reader2 returns the OCR code line result and Reader3 returns the original MICR code line result.
- **Franker**
  This configuration demonstrates the device's stamp/frank printing capability when the device hardware is enabled with the feature.
- **Endorser**
  This configuration uses an Arial TrueType font (for scanners that support TrueType fonts) to print four lines of endorsement along with the Digital Check logo. A document identification number and the current date/time are endorsed.
- **Barcode**
  This configuration allows Barcode reading. A sample Barcode Demo document is shown at the end of this guide.
- **UV**
  This configuration is set for scanning UV documents. UV capable device hardware and special UV documents are required to run.
- **OCR-A/B**
  This configuration sets the reader for OCR-A and/or OCR-B documents.  A sample OCR-A/B demo document is shown at the end of this guide.
- **Tape Spooler**
  This configuration requires the operator to press the "SmartClear" button on the top of the scanner to capture the rear image of the Adding Machine Tape.
- **Enhanced B/W**
  This configuration darkens the captured front image by setting a negative threshold value in Image Options.
- **IDCard**
  This configuration sets the feed mode to allow the operator to insert documents via the ID Card Entry point in the back of the SmartSource Elite.

Note:  If the device hardware is not configured with the pre-configured feature, the "Pre-configured feature is not present on the device" warning message will be displayed in the Message area.

### vii.    Item Counter

Displays the number of items captured in the current transaction or run.  This counter can be reset by the use of the Clear Button.

### viii.    Item Journal

This shows a listing of the all the MICR code lines for each item captured during scanning.  You can click on a code line to display the image of the associated item.  Also, the up and down arrows keys can be used to quickly navigate up and down the list of items. The display list contains a maximum of 500 items. When flowing more than 500 items, the document count will keep increasing but the item journal list

box will only display the last 500 items. Since all images are saved to disk at run time, you can find the older items in the image storage folder.

### ix.    Current Processed Image

This shows the current image that has been captured by the Demo.  This can be changed by selecting another item in the item journal or clicking on a different image thumbnail of the current item to see one of the other three images available.

### x.    Image Thumbnails

By default, four images are captured at burst track speed during the scanning process.  These are CCITT (black and white) front and rear along with Grayscale (JPEG) front and rear.  All four image thumbnails are shown in this order.  By clicking on another image thumbnail, the image rendition of the current item will display.  You can tell which image is selected as the there is a gray offset for the currently selected image as shown below.



### xi.    MICR Reader Info

This shows the results returned from the hardware MICR reader.  Any can't read characters will be shown as an *.  When the MOCR Pre-Config option is selected, this line will display the combined MICR and OCR results.

### xii.    Optional OCR Reader Info

The Demo has the ability to enable the use of two additional OCR readers.  OCR reader 1 by default is used to read the MICR code line optically.  Both OCR readers can be enabled and configured to read true OCR documents if this feature is enabled on the SmartSource Open Professional Series or SmartSource Open Adaptive.

### xiii.    Pull Down Menus

The main menu that will be used with the Demo is the "Options" Pull Down Menu.  This enables the configuration of various options as described in the next section.
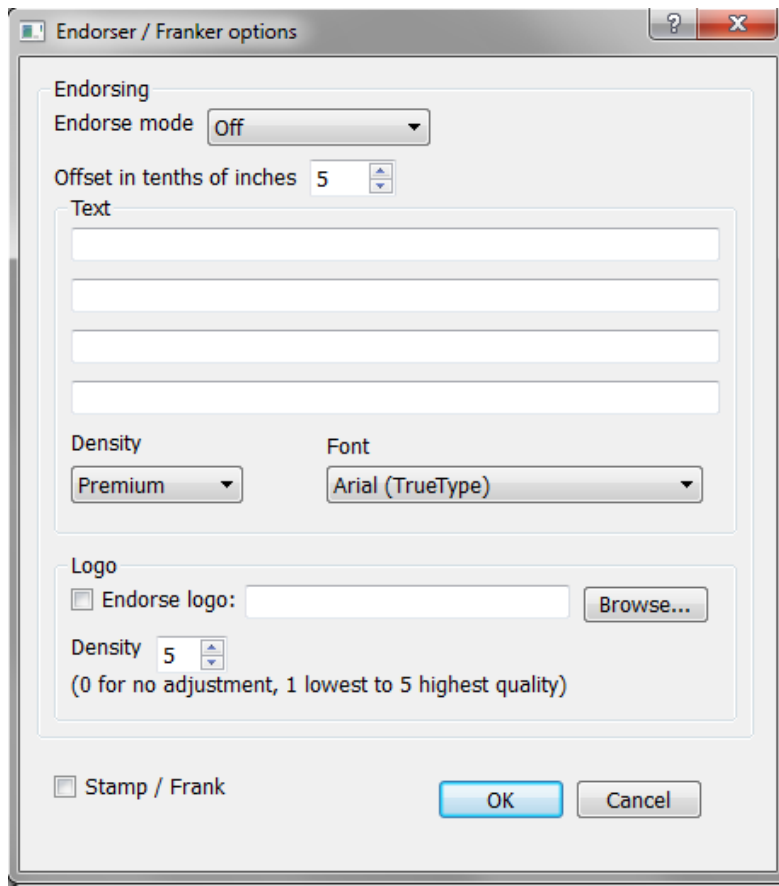
## d.  Navigation of Options Pull Down Menu

By clicking on this pull down menu, you will see the following configuration options:
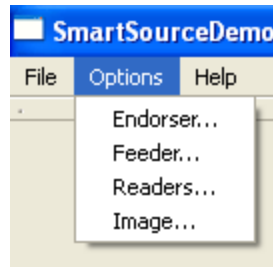
### i. Endorser Options

When the endorser option is selected the following screen will be displayed:



By default, endorsing is turned off.  To enable the endorser, you can select one or two options.  By selecting "1-4 line print", you can enter text in the following four lines.  Once you click okay and start scanning again, the four lines of text will be endorsed on the back of each item.  You also have the option of selecting "1 line with A/N".  This function will read the account number of the item scanned and endorse it on the back of its item.  This demonstrates the ability to make endorsement decisions based on the MICR line of each item.

Another parameter called "Offset in tenths of inches" allows you to move the endorsement position of the endorsement from the leading edge of the document.  Since this is in 1/10ths of an inch, an inch

would be entered as 10.  The default setting is 5 or ½ an inch.  Underneath the 4 line text boxes is a density setting.  The parameter will let you lighten or darken the endorsement.  The possible values are:

<div align="center">

Economy

Standard

Premium

</div>

By default, Premium is set for the darkest endorsement of text.

The endorser on the SmartSource Open Professional Series / SmartSource Open Adaptive supports TrueType fonts. By default, the standard Windows Arial Font is used. The Font option next to the Density option displays the list of installed true type fonts from Windows Fonts folder. You can select the font you like and apply it for your endorsement.

With the use of the logo option, you can endorse different logos along with text on the back of each item.  The files need to be in one of three .bmp formats:
  i)   1 bit-per-pixel bitonal (black/white),
  ii)  8 bits-per-pixel, 256-grayscale (recommended),
  iii) 8 bits-per-pixel, 256-color (color values will be converted to grayscale).
The height of the logo must be 320 pixels exactly. The width of the logo must not exceed 5696 pixels. To use a logo, click on the "Endorse Logo" check box to enable the function. Click on "Browse" to locate the appropriate .bmp file you created. Select "Open" to set the logo.  When you start scanning, this logo is endorsed followed by your selected text.    You can also set the print density of the logo from a value of 1 to 5 with 5 being the darkest.

Finally, if your SmartSource Open Professional Series or SmartSource Open Adaptive is configured with a Franker, you can enable its use by clicking on the "Stamp/Frank" option.  A Franker is a stamp that stamps "Electronically Presented" on the front of each item.  This is similar to the legacy use of a PAID stamp on already processed items.

## ii. Feeder Options

When you click on the feeder options, the following screen will display:
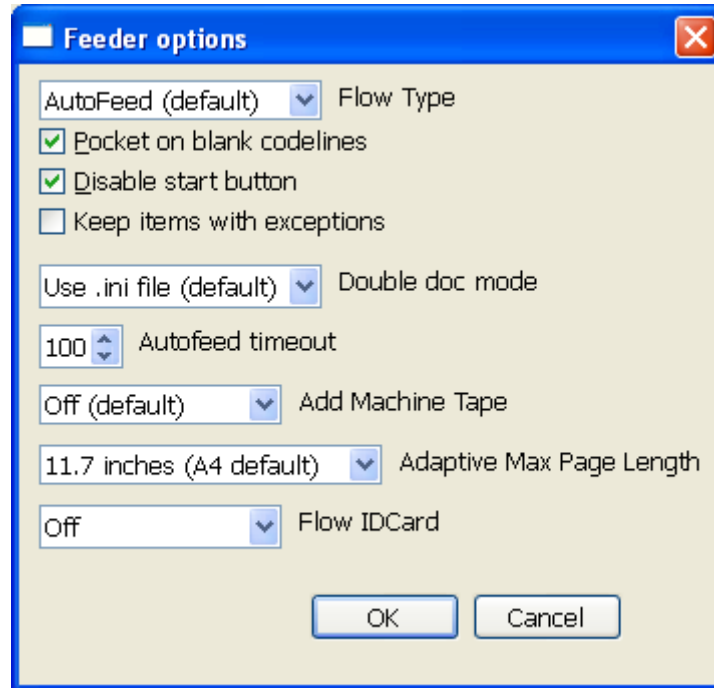


You have nine options you can set with this menu item. First, you can select the Flow Type:

- AutoFeed: The SmartSource scanner will automatically feed all documents in the hopper. This is the default
- Demand Feed: The SmartSource scanner will feed a single item. When that item is pocketed, the next item will feed.
- Single item: The SmartSource scanner will feed a single item, then stop.

if you have a two pocket SmartSource Open Professional Series and have "Pocket on blank code lines" checked, items without MICR code line will be out sorted automatically to the second pocket. This feature is checked by default.

By clicking the "Disable start button", the scanner will start feeding once items are put in the hopper. If you uncheck this box and click OK, then each time you put items in the feeder, you will need to press the "SmartClear" button at the top of the scanner to initiate flow. This feature is checked by default.

By clicking on "Keep items with exceptions", if you have a jam condition and clear the jam via the "SmartClear" button or the Clear Track Button, the MICR code line and front image will be displayed even though the item did not pocket. This demonstrates our ability to take the MICR information and front image early in the process and potentially make decisions from them. If this feature is unchecked, then a jammed item will not be displayed. That way you can review the last good image on the screen to determine which items need to be replaced back in the front of the feeder. This feature is disabled by default and should remain that way for your purposes.
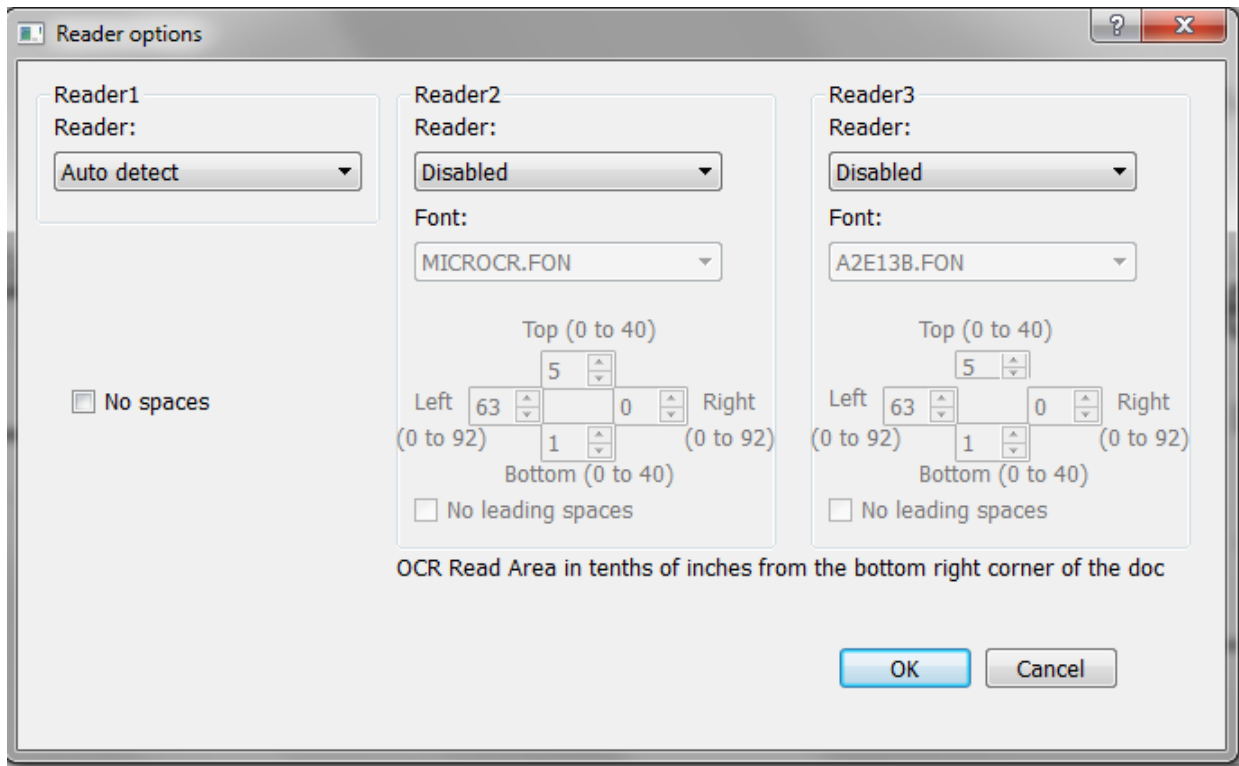
You can use the INI setting (enabled by default) for Double Doc Mode.   The Autofeed timeout is the time in milliseconds between when you click "Start Scan" and the scanner initiates flow.  You can reduce or increase this value as you see fit, but the default value should work fine.

The size of Adaptive Maximum Page Length can be selected from the three values from the pull down list.

For scanner s that have an ID Card Entry point (e.g. , SmartSource Elite), the Flow IDCard setting allows the option to switch between flowing from the primary hopper (Flow ID Card "Off" – default setting) to inserting items via the ID Card Entry point (Flow ID Card "On"). A third option (Flow ID Card "Any input") allows items to be processed from either the primary entry or the ID Card entry.

### iii.    Reader Options

When you select the Reader Options, the following screen will display:
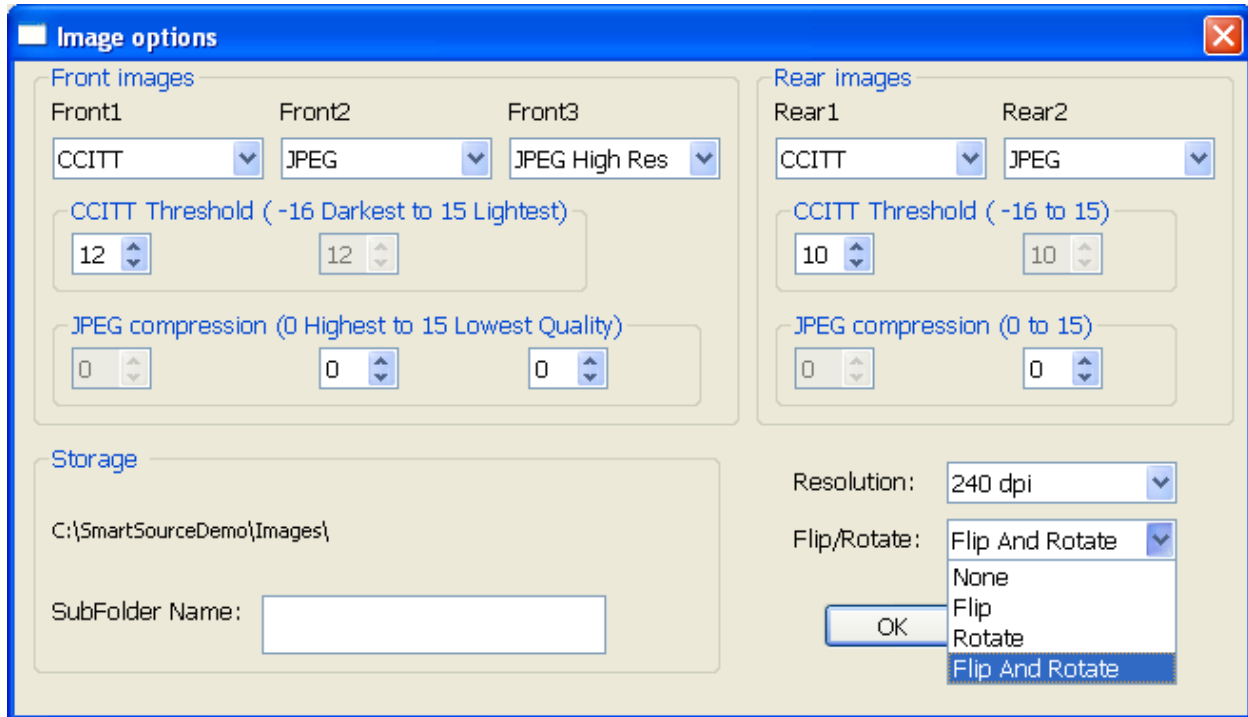


This shows the three possible readers.  Reader one is the MICR Reader and is enabled by default. Readers two and three are OCR readers.  Reader two is set up by default to read MICR optically (MOCR) if you enable it.  To enable it, click on the Reader two dropdown and select "OCR Reader1".  Do not change any other values.  Reader three can be customized to read remittance slips if desired by selecting the appropriate OCR font and defining the OCR read band area by setting up the Top, Bottom, Right, and Left positions.  Readers two and three are disabled by default. If the OCR reader is not enabled in the device hardware configuration, the operator should only select the MICROCR.FON (MICR/OCR combined) font.

Enabling the "No spaces" check box will cause the code line being returned without spaces.

iv.     **Image Options**

When you select the Image Options function, the following screen will display



This option allows you to set the order of the image thumbnails shown on the main display window.  By default, the front and rear black/white (CCITT) images are first followed by the front and rear grayscale(JPEG) images.  Front 1 and Rear 1 are the first two images.  Front 2 and rear 2 are the second pair of images.  You can select a different order via the various dropdown boxes.  Front3 provides the option to capture high resolution front JPEG images.

The threshold, or image brightness, of each CCITT image can also be set by increasing the values for lighter images, or decreasing the values for darker images.  By default, they are optimized.

The JPEG compression quality can be adjusted by increasing the values for lower quality images, or decreasing the values for higher quality. By default, they are optimized.  *Note: These JPEG settings may be overridden by the corresponding **JPEGQuality** settings in the \Patching\device.ini file.*

Three other options are available on this screen.  There is a dropdown box in the lower left part of the screen that, by default, shows 240 DPI.  This is the resolution of each image we capture in DPI (Dots Per Inch).  You can adjust this value to 200 DPI as an option.  The resolution of the JPEG images will be ½ of this value (120 or 100 DPI).
Another dropdown box is used to detect if a document that has been flipped (the rear of the document was imaged by the front camera, and vice versa) and/or rotated (the document was upside down). The images for the document will then be automatically re-oriented. Note that this re-orientation process may affect document throughput.

Finally, there is an edit box for the operator to specify the subfolder name where the images will be stored. The subfolder will be under the default image storage location.

### e. Image and MICR Code Line File Storage Location

The Demo program saves each of the image types, front black and white, rear black and white, front JPEG, rear JPEG, and/or front high resolution JPEG in separate files.  These files by default are located in the following directory (this is a hyperlink you can click on to go to that folder location):

<div align="center">

C:\SmartSouceDemo\Images

</div>

(Note: you have an option to specify a custom subfolder on Image option form. If a subfolder name is provided, all image files and code line file will be saved to the subfolder under the above path.)

Once you have processed items and click on the hyperlink, you will see the following screen:

| Name | Date | Type | Size | Tags |
|------|------|------|------|------|
| codelines.txt | 5/28/2013 10:31 AM | Text Document | 1 KB | |
| F1_00001.tif | 5/28/2013 10:31 AM | TIFF image | 7 KB | |
| F1_00002.tif | 5/28/2013 10:31 AM | TIFF image | 54 KB | |
| F1_00003.tif | 5/28/2013 10:31 AM | TIFF image | 5 KB | |
| F1_00004.tif | 5/28/2013 10:31 AM | TIFF image | 9 KB | |
| F1_00005.tif | 5/28/2013 10:31 AM | TIFF image | 7 KB | |
| F1_00006.tif | 5/28/2013 10:31 AM | TIFF image | 8 KB | |
| F2_00001.jpg | 5/28/2013 10:31 AM | JPEG image | 12 KB | |
| F2_00002.jpg | 5/28/2013 10:31 AM | JPEG image | 29 KB | |
| F2_00003.jpg | 5/28/2013 10:31 AM | JPEG image | 13 KB | |
| F2_00004.jpg | 5/28/2013 10:31 AM | JPEG image | 16 KB | |
| F2_00005.jpg | 5/28/2013 10:31 AM | JPEG image | 12 KB | |
| F2_00006.jpg | 5/28/2013 10:31 AM | JPEG image | 13 KB | |
| R1_00001.tif | 5/28/2013 10:31 AM | TIFF image | 6 KB | |
| R1_00002.tif | 5/28/2013 10:31 AM | TIFF image | 14 KB | |
| R1_00003.tif | 5/28/2013 10:31 AM | TIFF image | 7 KB | |
| R1_00004.tif | 5/28/2013 10:31 AM | TIFF image | 8 KB | |
| R1_00005.tif | 5/28/2013 10:31 AM | TIFF image | 4 KB | |
| R1_00006.tif | 5/28/2013 10:31 AM | TIFF image | 7 KB | |
| R2_00001.jpg | 5/28/2013 10:31 AM | JPEG image | 24 KB | |
| R2_00002.jpg | 5/28/2013 10:31 AM | JPEG image | 28 KB | |
| R2_00003.jpg | 5/28/2013 10:31 AM | JPEG image | 24 KB | |
| R2_00004.jpg | 5/28/2013 10:31 AM | JPEG image | 24 KB | |
| R2_00005.jpg | 5/28/2013 10:31 AM | JPEG image | 21 KB | |
| R2_00006.jpg | 5/28/2013 10:31 AM | JPEG image | 25 KB | |
| S1_00001.jpg | 5/28/2013 10:31 AM | JPEG image | 117 KB | |
| S1_00002.jpg | 5/28/2013 10:31 AM | JPEG image | 237 KB | |
| S1_00003.jpg | 5/28/2013 10:31 AM | JPEG image | 114 KB | |
| S1_00004.jpg | 5/28/2013 10:31 AM | JPEG image | 123 KB | |
| S1_00005.jpg | 5/28/2013 10:31 AM | JPEG image | 118 KB | |
| S1_00006.jpg | 5/28/2013 10:31 AM | JPEG image | 119 KB | |

The MICR information that is collected during the capture process is located in the **codelines.txt** file. This file will accumulate all the MICR information from each document processed, even if you clear the journal screen or exit the program and restart it.  You can manually delete the file and the program will recreate it if you want to only capture a certain set of MICR information or if you want to begin a new file.

For the Image files, as you can see by the screen shot above, each image has four files:

F1_00001.tif (F=front, 1=1st front image, .1=1st document, .tif=black and white)
F2_00001.jpg (F=front, 2=2nd front image, .1=1st document, .jpg=JPEG)
R1_00001.tif (R=rear image, 1=1st rear image, .1=1st document, .tif=black and white)
R2_00001.jpg (R=rear, 2=2nd rear image, .1=1st document, .jpg=JPEG)

S1_00001.jpg (S=snippet, 1= 1$^{st}$ snippet image, .1=1st document, .jpg=JPEG) if high-resolution JPEG is enabled

As stated earlier, by default, you can capture two front image types and two rear image types at track speed during capture.  The document number will increment for each item.  Therefore F1_00002.tif would be the 1$^{st}$ front image for the second document.  Each set of files is incremented as you capture items.  When you restart the program, it will begin at item number 1 and overwrite the previous image. You have the option to specify an image folder in the Image Options before each run. You also have the option of exiting the program and deleting all the image files from the C:\SmartSourceDemo\Images folder; new files will be created when you restart the program.

## f. Restore Default Config

A very useful option is listed under the File Menu as shown below:
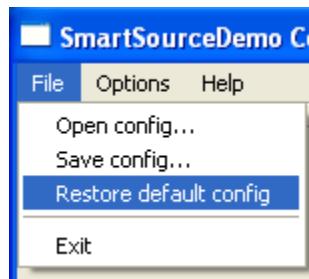


This option will reset everything under the Options Menu to its default value.  This is helpful if you change parameters for testing then would like to return them to the default value.

## g. Open and Save Config

As show above with the "Restore Default Config" option, there are two other available options under the File menu.  Those are "Open Config" and "Save Config".  If you make parameter changes that are different from the default values you can save that configuration.  This way you can set up multiple configurations depending on the type of testing you would like to perform.

Once you have made all the parameter changes you want to save, click on the File menu and choose "Save Config" as shown below.
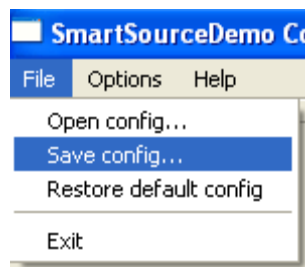
This screen will be displayed.
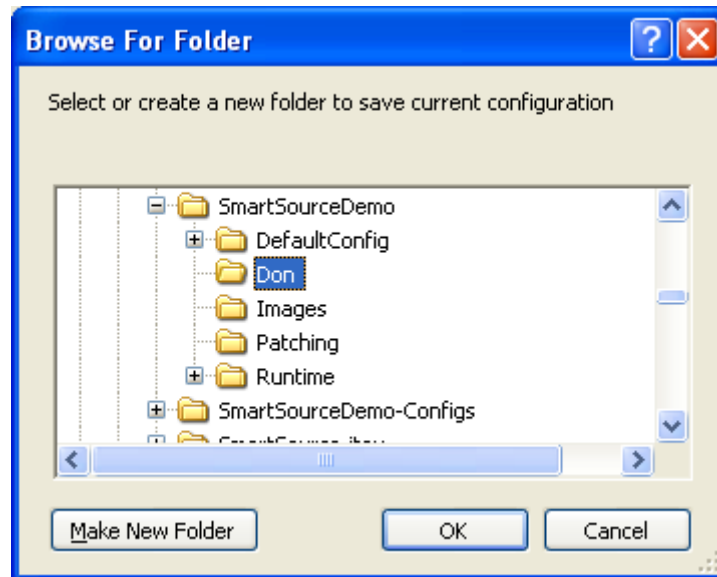


Click on the Make New Folder button on the lower left part of the screen.  This will make a new folder in the SmartSource Demo folder.  You can rename that folder to what you like, and then click okay to save the folder.  Notice I created one called "Don".

To use the "Open Config" option, select it from File menu and choose the folder name where you saved the specific configuration you would like to use.  See the example below a folder has created and is called "Don".  To open that configuration you would choose "Open Config", click on the "Don" folder as shown below and then click OK.  That parameter set is now loaded and can be used once you click on "Start Scan".
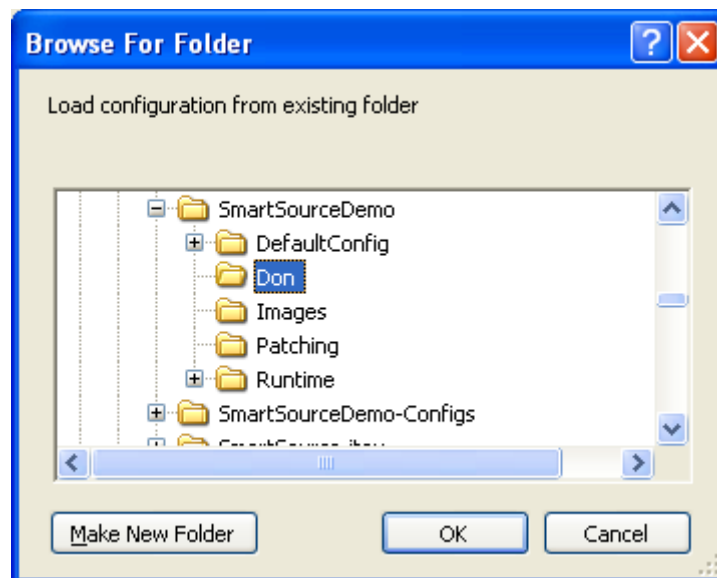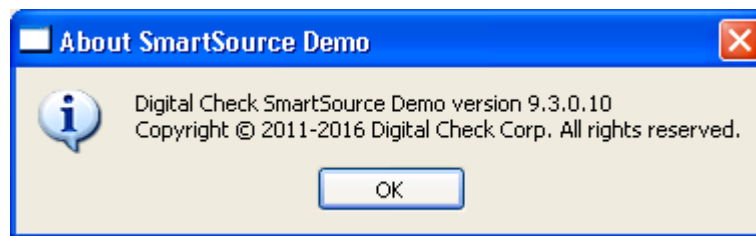
### h. Help

An About option is listed under the Help menu:
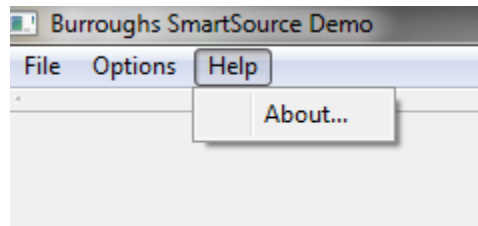
The About box displays the Demo program version and copyright information:

## 5) Additional Instructional Videos

To aid in your understanding of the SmartSource Open Professional Series, the following videos are available for your review and are located under the video tab on our website via this URL address:

http://www.burroughs.com/DriversDownloads/CheckDocumentScanners/SmartSource/ProfessionalValue.aspx

### a. SmartSource Open Professional Series Operation

Click on the hyperlink below to review a simple overview on how to run the SmartSource Open Professional Series.

Operating the SmartSource

### b. Rapid Cleaning

Maintenance on the SmartSource Open Professional Series is easy and quick as shown in the following video:

Rapid Cleaning

### c. Clearing Stopped Items

Since scanners are mechanical devices processing various types of paper documents, a document jam can occur.  Based on our testing, we believe that the SmartSource Open Professional Series handles the widest variety of document better than any other scanner in the market.  This is due to our unique belt driven technology.  If a document jams in the SmartSource Open Professional Series, we've incorporated

many unique design features to make recovery fast and intuitive.  This is highlighted in the following video that shows how to clear the SmartSource Open Professional Series.

[Clearing Jams](#)

# BARCODE Demo Document

**DIGITAL CHECK UPC-A BARCODE SAMPLE DOCUMENT**

1   00000 88249   8

# OCR A/B Demo Document