Intermec®

Enhanced Mobile Document Imaging

User's Guide

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Document Change Record

This page records changes to this document. The document was originally released as Revision 001.

Version Number	Date	Description of Change
004	5/2011	Updated capture and manual focus instructions, and added information on messages shown during document capture.
003	1/2011	This document was revised to include the following: • Added support for the 70 Series Mobile Computers. • Added new configuration settings.
002	7/2009	Revised procedures on how to capture document images and included information on how to obtain an Intermec Software license for eMDI.

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About Enhanced Mobile Document Imaging

Enhanced Mobile Document Imaging (eMDI) captures document images of full page documents (8.5 x 11 or A4 paper sizes) while in the field. Using the imager or camera on your computer, eMDI converts paper documents into document images.

eMDI streamlines back-office operation and reduces data entry time because document images can be transmitted from the field to back-office applications over wireless networks. Customer service and other staff gain real-time access to document images, which can be used to answer customer queries, issue invoices, and update records.

eMDI is currently supported by these mobile computers:

- CN4 Series Mobile Computer using the EA21 imager
- CN50 Mobile Computer using the EA21 imager
- 70 Series Mobile Computer using a camera

Installing eMDI

If the eMDI application is not installed on your computer, you can download the demo version from the Intermec web site.

To download eMDI

1 Go to **www.intermec.com** and select **Support** > **Downloads**. The Downloads page appears.

2 In the **Product Category** field, select **Computers**.

3 In the **Product Family** field, select **Handheld Computers**.

4 In the **Product** field, select your computer and click the **Submit** button. The Software Downloads page appears.

5 Search for and download the eMDI application.

The demo version places a watermark on captured document images. To capture document images without a watermark, you must purchase a software license. For more information, see **"Obtaining the eMDI Software License" on page 9**.

You can copy eMDI to your mobile computer using Microsoft ActiveSync or SmartSystems™ Foundation.

Installing eMDI Using Microsoft ActiveSync

To install eMDI using Microsoft ActiveSync, you need:

• a desktop PC with ActiveSync installed.

• a communications dock.

• a USB cable connecting your desktop PC to the communications dock.

To install eMDI using Microsoft ActiveSync

1 Download and install the eMDI installation program. For more information, see **"Installing eMDI" on page 7**.

2 When the installation program is complete, a window appears.

3 Place your computer into a communications dock and establish communications.

4 Transfer the eMDI .cab file from your desktop PC to your computer.

5 On your computer, tap the .cab file that you transferred in Step 4. The eMDI application is installed onto your computer.

Installing eMDI Using SmartSystems Foundation

You can use the SmartSystems console to install Intermec applications on your computer. For more information, go to the Intermec web site at **www.intermec.com/SmartSystems**.

To install eMDI using the SmartSystems console

1 Download the application to your PC. For more information, go to **"Installing eMDI" on page 7**.

2 Double-click the application. Follow the installation wizard to load the application onto the SmartSystems console.

3 Drag the application to each computer in your network or to a group of computers in a folder.

After eMDI is loaded into the SmartSystems console, the Software Manager notifies you of any updates that are available for download.

Obtaining the eMDI Software License

When you install eMDI on a CN4 or CN50 Series, new document images include a watermark. On a 70 Series, you can use eMDI for 30 days before new document images include a watermark. To remove the watermark, you must purchase an Intermec Software license for eMDI (P/N 454-025-001). For more information, contact your local Intermec representative.

After ordering your license, you receive an e-mail with a Software Entitlement ID. Go to the Intermec License Center at **https://license.intermec.com** and follow the wizard to generate and download your license. For more information, see the help information provided in the wizard.

After downloading the license file from the Intermec License Center, load the license in your SmartSystems Foundation console, using SmartSystems Foundation version 3.41 or later. For more information, see the SmartSystems Foundation Help.

Using the eMDI Application

When you start eMDI, the Document Imaging screen appears.
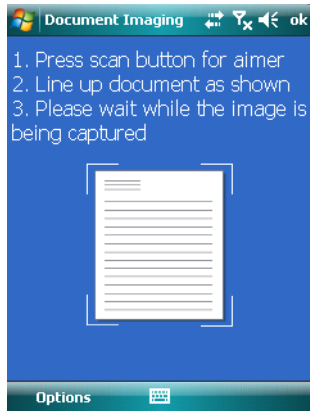
eMDI Main Screen

From the main screen, you can:

- capture document images. For more information on how to create a document image, see **"Capturing a Document Image" on page 11**.

- view images or edit eMDI configuration settings. For more information, see **"Configuring eMDI Using Intermec Settings" on page 15**.

- transfer files to your desktop PC. For more information, see **"Transferring Document Images To Your Desktop PC" on page 12**.

Capturing a Document Image

1 Select a document and place it on a flat surface.

2 If your mobile computer uses the Windows Mobile 6.1 operating system, tap **Start** > **Programs** > **Document Imaging**.

   If your mobile computer uses the Windows Mobile 6.5 operating system, tap **Start** > **Document Imaging**.

3 Align the laser frame or camera frame with the document image.

   a If you have a CN50 or CN4, point the imager towards the document you want to capture. Press and hold the **Scan** button to show the laser frame.

   b If you have a 70 Series, point the camera towards the document you want to capture. Press the **Scan** button to show the video preview and camera frame. You can also press the **Enter** key to immediately take a snapshot, which can help with focusing.

   If you have previously set the Focus Mode to manual, you can press the up and down buttons next to the **Scan** button, use the slider bar on the computer screen, or press the volume buttons on the side of the mobile computer to adjust the focus.
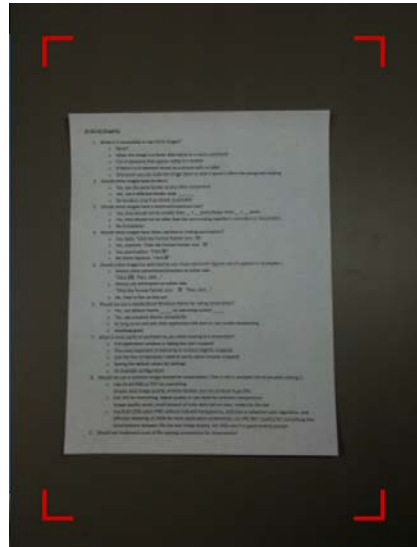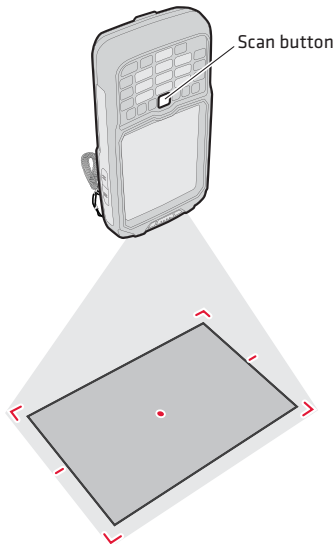
Using the Laser Frame (left) or Camera (right) to Capture an Image

4 When you align the laser frame, messages or icons can appear to help you capture a better image. These messages include:

- ⬇ Move closer to document

- ((📷)) Hold mobile computer steady

- 📐 Angle too sharp

For best results, position the mobile computer imager or camera at a 90-degree angle over the center of the document.

5 If you are using a mobile computer with an imager, the laser frame stops flashing when a document image is captured.

If you are using a mobile computer with a camera, the computer beeps once and the camera frame disappears when an image is captured.

The new image appears. You can:

- Tap **OK** to save this image and return to the main screen.

- Tap ⊕ to zoom in, and ⊖ to zoom out.

- Tap 🔲 to see all captured images in Gallery Mode.

- Tap ✕ to delete the image you captured.

6 To view saved images, tap **Options** and choose **Gallery**.

Transferring Document Images To Your Desktop PC

You can use Microsoft ActiveSync or SmartSystems Foundation to transfer document images to your desktop PC.

To transfer images using Microsoft ActiveSync

1 Create an ActiveSync connection between your desktop PC and your mobile computer. For more information, see your computer user's manual.

2 In the **Microsoft ActiveSync** window, click **Explore**.
The File Explorer screen appears.

3 Open the **My Windows Mobile Device** > **My Documents** > **MDI** folder.

4 Drag and drop the document images you want to transfer to a folder on your desktop PC.

To transfer images using SmartSystems Foundation

1 Make sure that your device is **Discovered** in the SmartSystems console. For more information, see SmartSystems Online Help.

2 Go to the File Transfer screen in the eMDI application.

File Transfer	ok
Available Files	

☐ Document_3.bmp
☐ Document_25.jpg
☐ Document_26.jpg
☐ Document_27.jpg
☐ Document_10.bmp
☐ Document_12.bmp
☐ Document_13.bmp
☐ Document_14.bmp
☐ Document_15.bmp
☐ Document_16.jpg

Not Connected
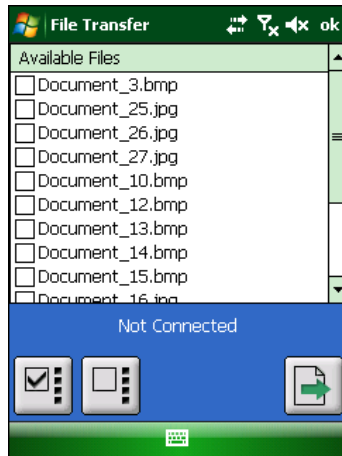
3 Select the images you want to transfer:

- Select or clear the check box next to each image.

- Tap ☑ to select all images.

- Tap ☐ to select none of the images.

4 Tap ➡ to transfer the document images to the directory on your desktop PC that you specified in the eMDI .xml file. For more information, see **"Configuring eMDI Using Intermec Settings" on page 15**.

Note: If no directory is specified in the .xml file, then the option to transfer files is not available.

Configuring eMDI

You can configure eMDI to suit your needs and the environment you are capturing document images. With eMDI you can configure:

- file index settings, which allows you to set the index settings for a document image. Indexes can include the type of document you are capturing, the date the document image was captured, or the document number.

- eMDI settings within the eMDI application, or with Intermec Settings. You can use these settings to adjust the focus check, compression quality, brightness, and file format settings.

If you integrated eMDI into another application, or if you have created a custom application, you must use Intermec Settings to configure eMDI. For more information, see **"Configuring eMDI Using Intermec Settings" on page 15**.

Note: If you need to allow or restrict certain eMDI settings, you need to edit the eMDI .xml file to suit your needs. For more information, see **"Creating and Editing the eMDI XML File" on page 20**.

Configuring File Index Settings using eMDI

You can change the index settings for a document image, including the document type and number. You can change or add up to five different index settings by editing the .xml file that comes with eMDI. For more information, see **"Configuring eMDI Using Intermec Settings" on page 15**.

You can only change File Index settings using eMDI if you start eMDI from the Features Demo application, or if you have previously set file index settings in the .xml configuration file.

To configure file index settings

1 In the eMDI application, tap **Options** > **Index Settings**. The Index Settings screen appears.

2 Edit the text boxes. When you are finished, tap **Options** > **Save Changes and Exit**.

Configuring eMDI Using Intermec Settings

If your computer supports Intermec Settings, you can use it to configure eMDI.

To configure eMDI using Intermec Settings

1 For Windows Mobile 6.1, tap **Start** > **Settings**. In the **System** tab, double-tap **Intermec Settings**.

For Windows Mobile 6.5, tap **Start**, then double-tap **Settings** > **System** > **Intermec Settings**.

The Intermec Settings application starts.

2 On a CN4 or CN50, tap **Data Collection** > **Internal Scanner** > **Imager Settings** > **Document Imaging**.

On a CN70 Series, tap **Data Collection** > **Camera** > **Camera Settings** > **Document Imaging**.
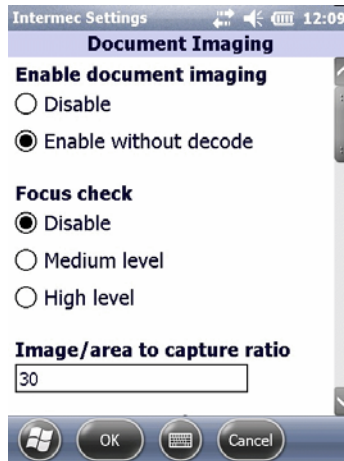
3 Edit the Document Imaging settings. Tap **OK** to save your changes and exit Intermec Settings.

Configure eMDI Settings with the eMDI Application

If you are using the eMDI application, you can configure eMDI in the settings screen. If you have an integrated or custom application, you must configure eMDI using Intermec Settings or the Intermec Developer Library (IDL) APIs.

For more information on configuring eMDI using Intermec Settings, see **"Configuring eMDI Using Intermec Settings" on page 15**.

For more information on using the IDL APIs, see the Developer library page on the Intermec web site:

www.intermec.com/products/applications_software/ development_tools/

To configure the eMDI settings

1 In the eMDI application, tap **Options** > **Settings**. The Settings screen appears.

2 Set your eMDI settings.

3 Save your settings by tapping **Options** > **Save Changes and Exit**. Use the following table to understand the tabs in the Settings screen.

Understanding the Tabs in the Settings Screen

Tab	Setting	Description
General	Movement Check	Adjusts the focus level when you are capturing a document image. If your document image is blurry, set the Movement Check to a higher level to prevent blurry images. The default is medium.
	Focus Mode	Adjusts the focus of the camera. Set the camera to constantly search for the best focus, automatically focus when the viewfinder starts, or allows the user to manually adjust the focus. Focus Mode is only available with the 70 Series Mobile Computers.
	Image Ratio	The ratio of the edge of a document image to the edge of the image frame before a document image is captured. The default is 80%.

Understanding the Tabs in the Settings Screen (continued)

Tab	Setting	Description
General (continued)	File Format	The file format that the document image is saved in. The default is .jpg.
		For the 70 Series Mobile Computer, document images that are saved in .bmp format can be up to 15 MB each. If you want to continue to save document images in .bmp format, you must increase the memory limit.
	Compression Quality	Adjusts the compression quality of document images that are saved as a .jpg or .tiff. The lower the setting, the lower the file size. Adjust this setting if you are running out of disk space on your computer. The default is 60%.
		This setting is disabled if you are saving a document image in .bmp format.
	Color Conversion	Set your document images to be saved in monochrome or Enhanced TIFF Quality. The default is none (grayscale).
		Enhanced TIFF quality is only available if you are saving your document images as a .tiff.
	Toggle Viewfinder	When enabled, you press the **Scan** button to enable to viewfinder. When disabled, you must hold the **Scan** button down to keep the viewfinder displayed. the default is enabled.
		Toggle Viewfinder is only available with the 70 Series Mobile Computers.
	On Capture	Set the action the computer takes when a document image is captured. The default is one beep.
	Record Location	Saves location data to .jpg files. If you enable Record Location when Location Services is not enabled, you are prompted to reboot the computer, and eMDI restarts with Record Location enabled. The default is disabled.
		Record Location is only available with the 70 Series Mobile Computers.
	Torch	When enabled, Torch uses the LED flash to illuminate the document, which helps capture document images in low-light areas. The default is on.
		Torch is only available with the 70 Series Mobile Computers.

Understanding the Tabs in the Settings Screen (continued)

Tab	Setting	Description
Conditioning	Contrast Enhancement	Adjust the contrast settings of the document image.The default is black text on a white background.
	Text Enhancement	Enhances the text in a document image. Increasing Text Enhancement between black text and a white background can make text more readable, but a high contrast level can induce visual noise. The default is low.
	Perspective Correction	Corrects the angle in which the document image is captured. The default is enabled.
	Lighting Correction	Corrects the vignetting in an image, enable this to correct non-uniform lighting conditions. The default is enabled.
	Noise Reduction	Reduces the noise in a document image. The higher the setting, the higher the filtering. Use this setting carefully as it may add some blur to the document image. The default is 2.
	Rotation	Rotate the document image when it is saved.The default is 0 degrees.
Storage	Image Location	Sets the location where document images are saved. The default is \My Documents\MDI. If you call eMDI from the Features demo, the default is \My Documents\DemoGallery.
	Document File Name	The file name that document images are saved as. Use the counter variable to show how many document images you have taken. Use the timestamp variable to tell you when a document image was taken. $(num) increments a counter. $(time) is a timestamp. $(location) adds the last known GPS location. $(field#) adds a file indexing value, where # corresponds to the indexing field number.
	Snapshot File Name	The file name used for snapshot images (70 Series only). You can use the **Document File Name** variables here.
	Memory Limit	The amount of storage space (in megabytes) allowed for images in the Image Location folder. Once the limit is reached, eMDI warns you that you need to increase the memory limit or delete older document images. Setting the memory limit to 0 MB allows unlimited space.
Advanced	Brightness	Adjust the brightness when you are capturing a document image in a darker environment. The default is 0.
	Brightness Threshold	Set the brightness threshold. The default is none.

Integrating or Creating a Custom Application

eMDI allows you to integrate eMDI features into an existing mobile application, or create a custom application. To integrate eMDI features into an existing mobile application, you must:

- download and install the eMDI application. For more information, see **"Installing eMDI" on page 7**.

- use the code sample specified in this section to call the eMDI application from another application.

If you are integrating the eMDI application, you need to call eMDI from another application. To do this, you need to insert the following code into your existing mobile application:

```
// first parameter is the path and name of the DocumentCapture.exe
// (default is "\\Program Files\\Intermec\\DocumentCapture\\
// DocumentCapture.exe" second parameter is the path and name of the
// xml file the calling application would like the eMDI application
// to use. If it is blank it will use defaults or if xml exists in
// local directory eMDI will use that.

try
{
ProcessStartInfo startInfo = new ProcessStartInfo(fileName,
arguments);

// working directory is the directory the calling application is
// running in.

startInfo.WorkingDirectory = directoryName +
Path.DirectorySeparatorChar;

Process.Start(startInfo);
}
catch (Exception exception)
{
MessageBox.Show("Failed to execute " + fileName + "\r\n" +
exception.ToString());
}
```

If you are creating a custom application, you must use the Intermec APIs. For more information, see the Mobile Document Imaging APIs in the Intermec Data Collection Resource Kit. For more information, go to **www.intermec.com/idl**.

Creating and Editing the eMDI XML File

To further customize eMDI features, you can create or edit the eMDI .xml file. This section lists eMDI field names, valid values, and descriptions.

Note: The current eMDI .xml file can still be used, but is deprecated for future versions of eMDI.

Field Definitions for MobileDocumentImaging_Config.xml

Field Name	Valid Values	Description or Notes
File Transfer		
connectionTimeOut	Integer > 0	Number of seconds to wait for a connection with the host before timing out. The default is 5 seconds.
transferTimeOut	Integer > 0	Number of seconds to wait for transfer to occur before timing out. The default is 15 seconds.
fileWriteMode	Append, overwrite, or discard	Allows the transferred files to be appended, overwritten, or discarded.
		If this section is left blank, file transfer will not be allowed. You will need to manually transfer files to your desktop PC. For more information, see **"Transferring Document Images To Your Desktop PC" on page 12**.
destinationFilePath	Character string representing a file path.	Path where image files and their associated text files will be placed on the desktop PC.
		If this section is left blank, file transfer will not be allowed. You will need to manually transfer files to your desktop PC. For more information, see **"Transferring Document Images To Your Desktop PC" on page 12**.
Settings		
allowChanges	True or false	Allow or restrict the user from changing any eMDI settings. The default is true.
allowGallery	True or false	Restricts the user from going to the gallery to view document images that have been captured if this value is set to false. The default is true.

Field Definitions for MobileDocumentImaging_Config.xml (continued)

Field Name	Valid Values	Description or Notes
General Settings		
allowChanges	True or false	Allow or restrict the user from making any changes to the General Settings and hides the General tab. The default is true.
Focus Check		
allowChanges	True or false	Allow or restrict the user from changing the Focus Check. The default is true.
focusCheck	Off, medium, high, or no value	Adjusts the focus level when you are capturing a document image. If your document image is blurry, set the Focus Check to a higher level to prevent blurry images. The default is no value.
Image Area to Capture Ratio		
allowChanges	True or false	Allow or restrict the user from changing the Image Area to Capture Ratio. The default is true.
imageRatio	10% to 85%	The ratio of the edge of a document image to the edge of the image frame before a document image is captured. The default is no value.
Output Compression		
allowChanges	True or false	Allow or restrict the user from changing the Output Compression. The default is false.
fileFormat	BMP, JPEG, or TIFF	If no value is provided for this field, the application does not change the File Format setting. BMP corresponds to none, JPEG corresponds to JPEG, TIFF, and TIFFG4 formats.The default is no value.
Compression Quality		
allowChanges	True or false	Allow or restrict the user from changing the Compression Quality. The default is false.
compressionQuality	0% to 100%	Adjusts the compression quality of document images that are saved as a .jpg or .tiff. The lower the setting, the lower the file size. Adjust this setting if you are running out of disk space on your computer. The default is no value.
		If you are saving your document images in .bmp format, this setting is disabled.

Field Definitions for MobileDocumentImaging_Config.xml (continued)

Field Name	Valid Values	Description or Notes
Color Conversion		
allowChanges	True or false	Allow or restrict the user from changing the Color Conversion setting. The default is false.
colorConversion	Grayscale, monochrome, or monochrome enhanced TIFF	Set your document images to be saved in monochrome or Enhanced TIFF Quality. The default is none (grayscale). If the File Format is set to TIFF, then the Color Mode setting is forced to monochrome.
OnCapture		
allowChanges	True or false	Allow or restrict the user from changing the On Capture settings.
onCapture	None, beep, two beeps, or vibrate	Set the sound the computer makes when a document image is captured. The default is one beep.
RecordLocation		
allowChanges	Yes or no	Allow or restrict the user to set the location data. The default is no.
recordLocation	Yes or no	Saves location data to .jpg files. The default is no.
		Record Location is only available with the 70 Series Mobile Computers.
Conditioning Settings		
allowChanges	True or false	Allow or restrict the user from changing the Conditioning Settings. The default is true.
Contrast Enhancement		
allowChanges	True or false	Allow or restrict the user from changing the Contrast Enhancement setting. The default is true.
contrastEnhancement	None, photo, black text on white, or white text on black	Adjust the contrast settings of the document image. The default is no value.
Text Enhancement		
allowChanges	True or false	Allow or restrict the user from changing the Text Enhancement setting. The default is true.

Field Definitions for MobileDocumentImaging_Config.xml (continued)

Field Name	Valid Values	Description or Notes
textEnhancement	True or false	Enhances the text in a document image. Increasing Text Enhancement between black text and a white background can make text more readable, but a high contrast level can induce visual noise. The default is true. If it is set to false, the application is not able to change the Text Enhancement setting.
Perspective Correction		
allowChanges	True or false	Allow or restrict the user from changing the Perspective Correction setting. The default is true.
perspectiveCorrection	True or false	Corrects the angle in which the document image is captured. The default is true.
Lighting Correction		
allowChanges	True or false	Allow or restrict the user from changing the Lighting Correction setting. The default is true.
lightingCorrection	True or false	Corrects the vignetting in an image, enable this to correct non-uniform lighting conditions. The default is true.
Noise Reduction		
allowChanges	True or false	Allow or restrict the user from changing the Video Noise Reduction setting. The default is true.
noiseReduction	0-9	Reduces the noise in a document image. The higher the setting, the higher the filtering. Use this setting carefully as it may add some blur to the document image. The default is 0.
Image Rotation		
allowChangees	True or false	Allow or restrict the user from changing the Image Rotation setting. The default is true.
imageRotation	None, 90, 180, or 270	Rotate the document image when it is captured. The default is none.
Storage Settings		
allowChanges	True or false	Allow or restrict the user from changing the Storage Settings. The default is false.

Field Definitions for MobileDocumentImaging_Config.xml (continued)

Field Name	Valid Values	Description or Notes
Folder Memory Limit		
allowChanges	True or false	Allow or restrict the user from changing the Folder Memory Limit setting.
folderMemoryLimit	Unsigned integer 0 - xxx MB	The amount of storage space allowed for images in the Image Location folder. Once the limit is reached, you get a warning indicating that you need to increase the memory limit or delete older document images. Setting the memory limit to 0 allows unlimited space. The default is no value.
Captured Document Location		
allowChanges	True or false	Allow or restrict the user from changing the Captured Image Location. The default is false.
capturedDocumentLocation	File path	Specify a file path where all document images are saved. If no file path is specified, document images are saved to \My Documents\MDI. If you call eMDI from the Features demo, the path is \My Documents\DemoGallery. The default is no value.
File Name Template		
allowChanges	True or false	Allow or restrict the user to change the File Name Template setting. The default is false.
nameTemplate	Character string up to 200 characters	$(num) increments a counter. $(time) is a timestamp.
snapshotNameTemplate	Character string up to 200 characters	$(location) tells you where your document image was captured. $(field#) adds a file indexing value, where # corresponds to the indexing field number.
Advanced Settings		
allowChanges	True or false	Allow or restrict the user from changing Advanced Settings. The default is true.
enableBarcodeDecodingOn Exit	True or false	Enable bar code decoding when you exit eMDI. The default is true. Note: When you are capturing document images, bar code decoding is turned off.

Field Definitions for MobileDocumentImaging_Config.xml (continued)

Field Name	Valid Values	Description or Notes
Brightness		
allowChanges	True or false	Allow or restrict the user from changing the Brightness setting.
Brightness	-100 to 100	Adjust the brightness when you are capturing a document image in a darker environment. The default is 0.
ColorModeBrightness Threshold		
allowChanges	True or false	Allow or restrict the user from adjusting the Color Mode Brightness Threshold setting. The default is false.
colorModeBrightness	Very dark, dark, normal, bright, or very bright	Set the brightness threshold. The default is no value.
File Index Information		
allowIndexInformation Changes	Disabled, optional, or required.	If File Index Information is disabled, the option to input information is not offered in the application.
		If File Index Information is optional, there is a menu item in the Options menu to enter index information.
		If File Index Information is required, the screen to input index information is displayed in the application before the Capture screen, and the user is forced to enter information set up as required.
includeTextFile	True or false	If this is set to true, a text file with the same name as the image is created. In the text file is the index information.
field*n* where *n* is 1-5	Character string up to 50 characters.	If no fields are set then allowIndexInformationChanges should be set to disabled. This is used in the FileNameTemplate in the $(field*n*). Users can also include fields to be use in the FileNameTemplate, but set the allowIndexInformationChanges to false. If this is the case, eMDI uses the values supplied in defaultValue.

Field Definitions for MobileDocumentImaging_Config.xml (continued)

Field Name	Valid Values	Description or Notes
entryRequired	True or false	The default is false. If it is set to true, the user must enter something before leaving the screen if a default is not set.
minLength	Numeric	The default is zero if not required. If entryRequired is true, then the default is one.
maxLength	Numeric	The default is 30. Specifies the number of characters the user can enter.
fieldType	AN, NUM, or DT	Users can enter alphanumeric characters up to the maxLength specified.
		If this is set to NUM, then the user can enter only numeric values up to the maxLength specified.
		If this is set to DT, then the application displays a Date Picker control used.
		The default is AN.
displayName	Character string up to 30 characters.	This value is used to display as the label on the screen for the input value. It is also used in the .txt file eMDI creates if includeTextFile is set to true.
defaultValue	Should follow the minLength, maxLength, and fieldType that are set.	If one defaultValue is included, the application displays a text or date entry field with the defaultValue displayed. Users are allowed to change it, and if more than one defaultValue is included, then the user is able to pick from a list of included values (the default is empty).
		If no default value is included, then the user is required to enter a value if Entry Required is included.

eMDI XML Example

This XML code example demonstrates how to use the fields as defined in the previous section.

```xml
<?.xml version="1.0" encoding="utf-8" ?>
<MobileDocumentImaging .xmlns:xsi="http://www.w3.org/2001/
.xmlSchema-instance".xmlns:xsd="http://www.w3.org/2001/.xmlSchema">

<FileTransfer>
  <connectionTimeOut>5</connectionTimeOut>
  <transferTimeOut>15</transferTimeOut>
  <fileWriteMode></fileWriteMode>
  <destinationFilePath></destinationFilePath>
</FileTransfer>

<Settings allowChanges="true" allowGallery="true">
  <General allowChanges="true">
    <focusCheck allowChanges="true">Off</focusCheck>
    <imageRatio allowChanges="ftrue">75</imageRatio>
    <fileFormat allowChanges="false">BMP</fileFormat>
    <compressionQuality allowChanges="false">75</compressionQuality>
    <colorConversion allowChanges="false">None</colorConversion>
  </General>

  <Conditioning allowChanges="true">
    <contrastEnhancement allowChanges="true">true<contrast
    Enhancement>
    <textEnhancement allowChanges="true">true</textEnhancement>
    <perspectiveCorrection allowChanges="true">true
    <perspectiveCorrection>
    <lightingCorrection allowChanges="true">true
    </lightingCorrection>
    <noiseReduction allowChanges="true">3</noiseReduction>
    <imageRotation allowChanges="true">90</imageRotation>
  </Conditioning>

  <Storage allowChanges="true">
    <folderMemoryLimit allowChanges="true">15</folderMemoryLimit>
    <capturedDocumentLocation allowChanges="false">
    My Documents\MDI</capturedDocumentLocation>
    <fileNameTemplate allowChanges="false">
    Document_$(num)</fileNameTemplate>
  </Storage>
</Settings>
<FileIndexInformation allowIndexInformationChanges="Required"
includeTextFile="false">
```

```xml
  <field1 entryRequired="true" minLength="1" maxLength="50"
  fieldType="AN">
    <displayName>Document Name</displayName>
    <defaultValue>Bill of Lading</defaultValue>
    <defaultValue>Receipt</defaultValue>
    <defaultValue>Driver Log</defaultValue>
  </field1>

  <field2 entryRequired="false" maxLength="20" fieldType="NUM">
    <displayName>PRO#</displayName>
    <defaultValue>12450005</defaultValue>
  </field2>
  <field3 entryRequired="false" fieldType="DT">
    <displayName>Service Date</displayName>
  </field3>

  <field4></field4>
  <field5></field5>
</FileIndexInformation>
</MobileDocumentImaging>
```

Troubleshooting eMDI

Use this section to troubleshoot some common problems you may experience with eMDI.

Problems While Using eMDI

Problem	Possible Solution
Problems capturing full-sized documents (8.5 x 11 and A4) or half-sized documents (8.5 x 5.5 and A5).	Set your saved images to JPEG grayscale at 75% compression quality. Make sure the document and background have high contrast, and good lighting.
Image appears grainy.	Decrease text enhancement or increase noise reduction.
Images are no longer recognizable or the laser frame no longer illuminates.	Restore menu defaults by tapping **Start** > **Settings** > **Systems** > **Intermec Settings**. Browse to **Data Collection** > **Internal Scanner** > **Imager Settings** and tap **Menu** > **Restore Menu Defaults**.
Laser frame flashes and is aligned on the document, but eMDI never captures an image.	Place the document on a different background which is more uniform and has higher contrast with the document.
Laser frame is obscured.	Clean the imager window. For more information, see the user's manual.
Cannot capture document.	Reduce the image capture ratio and movement settings, then try to capture the document again. Continue to reduce settings until you successfully capture an image, then increase the settings more slowly until the image quality is acceptable.

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