Intermec®

eMDI

Enhanced Mobile Document Imaging

User Guide

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There are U.S. and foreign patents as well as U.S. and foreign patents pending.

Document Change Record

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

Version Number	Date	Description of Change
007	11/2013	Revised to include the following: • Added support for the CN51 Mobile Computer. • Added Extended and Macro Modes.
006	12/2011	Updated to add information on Focus Mode and the 70 Series Mobile Computers.
005	10/2011	Revised to correct focus mode settings.
004	5/2011	Revised to correct capture and manual focus instructions. Also added information on messages shown during document capture.
003	1/2011	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

Intermec Enhanced Mobile Document Imaging (eMDI) is a professional document capture application that enables you to capture images of full page documents (8.5 x 11 or A4 paper sizes) with the camera or imager while in the field.

eMDI streamlines back-office operation and reduces data entry time by transmitting document images from the field to back-office applications over wireless networks. Users gain real-time access to document images, which can be used to answer customer questions, issue invoices, and update records.

These mobile computers support eMDI:

- CN4 Series Mobile Computers (using the EA21 imager)
- CN50 Mobile Computer (using the EA21 imager)
- CN51 Mobile Computer (using the camera)
- 70 Series Mobile Computers (using the camera)

Download eMDI

Some Intermec computers have the eMDI application installed. If it is not, download the demo version from the Intermec website at **www.intermec.com**.

1. Open a web browser and go to **www.intermec.com**.
2. Select **Support** > **Downloads**.
3. Select these items:
   a. In the Product Category list, select **Computers**.
   b. In the Product Family list, select **Handheld Computers**.
   c. In the Product List, select your mobile computer and then click **Submit**.
4. Find and download the Document Imaging installation file.
5. Double-click the installation file and follow the instructions to install eMDI onto your desktop PC.

Install eMDI on Your Mobile Computer

Install eMDI by copying it to your mobile computer using one of these applications:

- Microsoft® ActiveSync (Windows XP or earlier)
- Windows Mobile Device Center (Windows Vista or later)
- SmartSystems™

ActiveSync and Windows Mobile Device Center are available from the Microsoft website at **www.microsoft.com**, and SmartSystems can be downloaded from the Intermec website at **www.intermec.com**.

Install eMDI With ActiveSync or Mobile Device Center

To install eMDI with ActiveSync or Windows Mobile Device Center, you need:

- a desktop PC with ActiveSync or Mobile Device Center installed.
- a communications dock.
- a USB cable connecting your desktop PC to the communications dock.

Note: If your mobile computer is using Windows Mobile 6.1, download and install .NET Microsoft® Compact Framework 3.5. This free download is available from the Microsoft website at **www.microsoft.com/download.**

1. Download and install eMDI onto your desktop PC.
2. Connect your mobile computer to your desktop PC using the communications dock and USB cable.
3. On your desktop PC, find the eMDI .cab file and copy it to a folder on your mobile computer.
4. On your mobile computer, tap the .cab file to install eMDI.

Install eMDI With SmartSystems

SmartSystems is software application that allows you to easily deploy and manage multiple Intermec devices. Use SmartSystems to install eMDI on multiple computers. For more information go to **www.intermec.com/SmartSystems**.

1. Download and install eMDI onto your desktop PC.
2. Follow the installation wizard to load the application onto the SmartSystems console.
3. From the console, drag the application to each computer in your network or to a group of computers in a folder.

Purchase an eMDI Software License

New images that you create with eMDI include a watermark. On the 70 Series and CN51 mobile computer, you can use eMDI for 30 days before a watermark is added to new document images. To remove the watermark, you need to purchase an Intermec Software license (P/N 454-025-001). For more information, contact your local Intermec representative.

Load the eMDI Software License

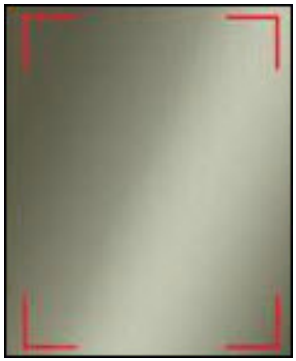
Load an eMDI software license to prevent watermarks from appearing when you create a new document image.

1. Purchase an eMDI software license. An email with an Entitlement ID is sent to you.
2. Go to **https://license.intermec.com**.
3. In **Entitlement ID**, enter the Entitlement ID you received in your email and click **Submit**.
4. Follow the instructions to generate and download your license.
5. Use Intermec License Manager or SmartSystems to load the eMDI software license on your computer. For more information, see the help files included with the software application.

Capture a Document Image with the Camera

Use the camera to easily capture a document image with the CN51 or 70 Series mobile computers.

1. Place your document on a flat surface. Make sure that there is good contrast between the document and surface.
2. Tap **Start** > **Document Imaging**.
3. Point and hold the camera at a 90° angle and a few inches away from the document.
4. Press the **Scan** button. The video preview and viewfinder frame appears.



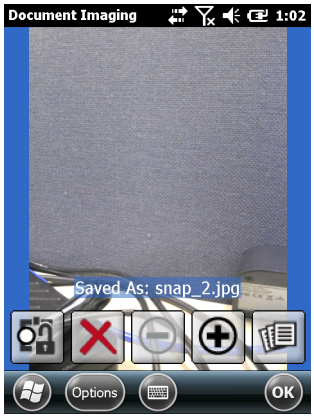
   The viewfinder frame pulses as it tries to detect the document edges.

5. Align the viewfinder frame with the document edges by moving the camera. When the viewfinder frame detects the document edges, the viewfinder frame turns white and a red target appears.

The following icons may appear to help you capture the document image:

- Move the camera closer to document.
- Hold the camera steady.

When the computer is ready to take a document image, the icons dissappear and the red target turns white, and the image is captured.



6 (Optional) Tap to zoom in, or tap to zoom out.

7 (Optional) If the image is out of focus, you may need to change the Focus mode.

- To change from Auto Continuous, Auto Single, Extended, or Macro modes to Focus Lock, tap .
- To disable Focus Lock, tap .

8 Save or discard the image:

- Tap **OK** to save the image and return to the Document Imaging main screen.
- Tap to save the image and view the image gallery.
- Tap to discard the image.

9 To view all saved images, tap **Options** > **Gallery**.

Capture a Document Image With the Imager

Use the EA21 imager to easily capture a document image with the CN4 or CN50 mobile computers.

1 Place your document on a flat surface. Make sure that there is good contrast between the document and surface.

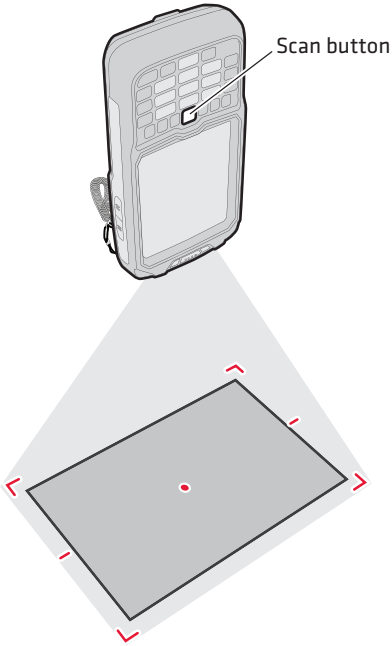
2 If you have Windows Mobile 6.1, tap **Start** > **Programs** > **Document Imaging**.

If you have Windows Mobile 6.5 or Windows Embedded Handheld 6.5, tap **Start** > **Document Imaging**.

3 Point and hold the camera at a 90° angle a few inches away from the document.

4 Press and hold the **Scan** button. The laser frame appears.

5 Move the camera away from the document to align the laser frame with the document edges.



The following messages may appear to help you capture the document image:

- Move closer to the document
- Hold mobile computer steady
- Angle too sharp

When the focus and distance are correct, the laser frame disappears, and the image is captured.

6 (Optional) Tap ⊕ to zoom in, or tap ⊖ to zoom out.

7 Save or discard the image:

- Tap **OK** to save the image and return to the Document Imaging main screen.
- Tap to save the image and view the image gallery.
- Tap ✕ to discard the image.

8 To view all saved images, tap **Options** > **Gallery**.

Transfer Document Images to the Desktop PC

Transfer document images to the desktop PC by using one of these applications:

- Microsoft® ActiveSync (Windows XP or earlier)
- Windows Mobile Device Center (Windows Vista or later)
- SmartSystems

Transfer Document Images with ActiveSync or Windows Mobile Device Center

Use ActiveSync or Windows Mobile Device Center to transfer document images to your desktop PC.

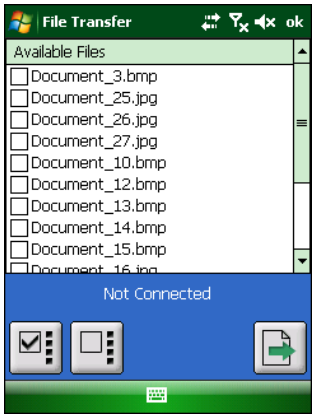
1. Establish an ActiveSync connection between your desktop PC and your mobile computer. For more information, see your computer user manual.
2. In the **Microsoft ActiveSync** window, click **Explore**. The File Explorer screen appears.
3. Open the **My Windows Mobile Device** > **My Documents** > **MDI** folder.
4. Drag and drop the document images you want to transfer to a folder on your desktop PC.

Transfer Document Images with SmartSystems

Use SmartSystems to transfer document images to your desktop PC.

1. Make sure that your mobile computer is Discovered in the SmartSystems console. For more information, see the SmartSystems Online Help.
2. In the SmartSystems console, right-click your device and click **Intermec Settings** > **Mobile Components** > **Document Imaging** > **File Transfer**.
3. Type your destination path and click **Save.**
4. On your mobile computer, restart the eMDI application.

5 Tap **File Transfer**.



6 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.

7 Tap to transfer the document images to your desktop PC. The images transfer to the directory specified from Intermec Settings.

Note: If no directory is specified from Intermec Settings, the option to transfer files is not available.

Configure eMDI

You can configure many eMDI parameters such as the file format or the compression quality. The values you set for these parameters determines how eMDI operates.

There are a couple of ways to configure eMDI:

- Through the eMDI application.
- Through Intermec Settings.

Configure Settings Through the eMDI Application

Configure eMDI from the Settings menu of the eMDI application.

1. In the eMDI application, tap **Options** > **Settings**. The Settings screen appears.
2. Configure your settings.
3. Tap **Options** > **Save Changes and Exit**.

Configure eMDI Through Intermec Settings

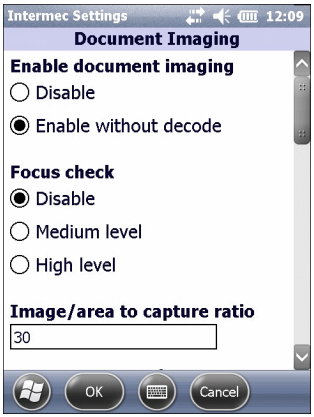
Configure eMDI through Intermec Settings on the computer. If you have an integrated or custom application, you can only configure eMDI using Intermec Settings or with the Intermec Developer Library (IDL) APIs.

1. For Windows Mobile 6.1, tap **Start** > **Settings** > **System** tab > **Intermec Settings**.

   For Windows Mobile 6.5 or Windows Embedded Handheld 6.5, tap **Start** > **Settings** > **System** > **Intermec Settings**.

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

   On a CN51 or 70 Series mobile computer, tap **Data Collection** > **Camera** > **Camera Settings** and select **Document Imaging** to configure Document Imaging settings, or tap **Viewfinder and Focus** to configure Focus Mode settings.



3. Configure your settings.

4 Tap **OK** to save your changes and exit Intermec Settings.

Configure File Index Settings

When a document image is saved, the document name along with a default value is displayed. You can change these File Index settings through the eMDI application.

Note: You can change or add up to five different File Index settings through Intermec Settings.

1. In the eMDI application, tap **Options** > **Index Settings**. The Index Settings screen appears.
2. Configure the settings.
3. When you are finished, tap **Options** > **Save Changes and Exit**.

About eMDI Settings

The following settings can be configured from the eMDI application or from Intermec Settings.

Note: Some settings may not be available on all computers.

General eMDI Settings

Setting	Description
Movement Check	Adjusts the focus level when you capture a document image. If your document image is blurry, increase the Movement Check. Default is medium. If you are having trouble capturing a document image, disable Movement Check. However, this may cause the captured image to be blurry.

General eMDI Settings (continued)

Setting	Description
Focus Mode	Adjusts the focus of the camera. • **Auto Continuous**: Automatically focuses and refocuses periodically and when it detects movement. Captures the image when the focus is correct. • **Auto Single**: Automatically focus, and refocuses when it detects movement. Captures the image when the focus is correct. • **Focus Lock**: Uses the focus set during the last image capture for future captured images. • **Macro:** Allows you to capture a document image from 10 cm to 50 cm. • **Extended:** Allows you to capture a document image from 10 cm to infinity. This setting is only available on the 70 Series and CN51 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. Default is 80%. If you are having trouble capturing a document image, lower the Image Ratio. However, this may cause the captured image to be lower quality.
File Format	The file format the document image is saved in. Default is .jpg. For the CN51 and 70 Series mobile computers, 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 to increase disk space on your computer. Default is 60%. Compression quality is disabled if you are saving a document image in .bmp format.
Color Conversion	Sets your document images quality to save in monochrome, color, grayscale, or Enhanced TIFF. Default is grayscale. .jpg allows color (CN51 and 70 series only), monochrome, or grayscale. .bmp allows monochrome or grayscale. .tiff allows monochrome or enhanced TIFF.
Toggle Viewfinder	When enabled, press the **Scan** button to enable to viewfinder. When disabled, press and hold the **Scan** button to display viewfinder. Default is disabled. Toggle Viewfinder is only available on CN51 and 70 Series mobile computers.

General eMDI Settings (continued)

Setting	Description
On Capture	Sets the computer action when a document image is captured. 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. Default is disabled. Record Location is not available on the CN4 series mobile computers.
Torch	Uses the LED flash to illuminate the document, which helps capture document images in low-light areas. It can be set to on, off, or auto. Default is off. Torch is only available on CN51 and 70 Series mobile computers.
Flash	Uses the LED flash to illuminate the document, when the image is captured. It can be set to on, off, or auto. Default is off. Flash is only available on CN51 and 70 Series mobile computers.

eMDI Conditioning Settings

Setting	Description
Contrast Enhancement	Adjusts the contrast settings of the document image. 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. Default is low.
Perspective Correction	Corrects the angle at which the document image is captured. Default is enabled.
Lighting Correction	Corrects lighting in document images where the edges are darker than the middle. Default is disabled for the camera and enabled for the EA21 imager.
Noise Reduction	Reduces the noise in a document image. Increase this setting, to increase the filtering. If this setting is too high, it may blur the document image. Range is 0 to 9. Default is 2 for the camera and 0 for the EA21 imager.
Rotation	Rotates the document image when it is saved. Default is 0 degrees.

eMDI Storage Settings

Setting	Description
Image Location	Sets the location where document images are saved. The default is \My Documents\MDI.
Document File Name	The file name used for document images. The counter variable shows how many document images you have taken. The timestamp variable shows when you captured the document image: $(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. You can use the **Document File Name** variables here. Snapshot File Name is only available on the CN51 and 70 Series mobile computers.
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.

eMDI Advanced Settings

Setting	Description
Brightness	Adjusts the brightness when you are capturing a document image in a darker environment. Default is 0.
Brightness Threshold	Sets the brightness threshold. Default is none.

How to Integrate or Create 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.
- 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 by inserting 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 available at **www.intermec.com/idl**.

How to Create and Edit 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: You can still use the current eMDI .xml file, but it is deprecated in this version and in all future versions of eMDI. For the current settings, see the settings in the eMDI application.

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. Default is 5 seconds.
transferTimeOut	Integer > 0	Number of seconds to wait for transfer to occur before timing out. 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 is not allowed and you must manually transfer files to your desktop PC. For more information, see **"Transfer Document Images to the Desktop PC" on page 14**.
destinationFilePath	Character string representing a file path	Path where image files and their associated text files are placed on the desktop PC. If this section is left blank, file transfer is not allowed and you must manually transfer files to your desktop PC. For more information, see **"Transfer Document Images to the Desktop PC" on page 14**.
Settings		
allowChanges	True or false	Allows or restricts the user from changing any eMDI settings. 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. Default is true.

Field Definitions for MobileDocumentImaging_Config.xml (continued)

Field Name	Valid Values	Description or Notes
General Settings		
allowChanges	True or false	Allows or restricts the user from making any changes to the General Settings and hides the General tab. Default is true.
Focus Check		
allowChanges	True or false	Allows or restricts the user from changing the Focus Check. 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. Default is no value.
Image Area to Capture Ratio		
allowChanges	True or false	Allows or restricts the user from changing the Image Area to Capture Ratio. 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. Default is no value.
Output Compression		
allowChanges	True or false	Allows or restricts the user from changing the Output Compression. 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. Default is no value.
Compression Quality		
allowChanges	True or false	Allows or restricts the user from changing the Compression Quality. 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. 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	Allows or restricts the user from changing the Color Conversion setting. Default is false.
colorConversion	Grayscale, monochrome, or monochrome enhanced TIFF	Sets your document images to be saved in monochrome or Enhanced TIFF Quality. Default is grayscale. If the File Format is set to TIFF, the Color Mode setting is forced to monochrome.
OnCapture		
allowChanges	True or false	Allows or restricts the user from changing the On Capture settings.
onCapture	None, beep, two beeps, or vibrate	Sets the sound the computer makes when a document image is captured. Default is one beep.
RecordLocation		
allowChanges	Yes or no	Allows or restricts the user to set the location data. Default is no.
recordLocation	Yes or no	Saves location data to .jpg files. Default is no. Record Location is only available on 70 Series mobile computers.
Conditioning Settings		
allowChanges	True or false	Allows or restricts the user from changing the Conditioning settings. Default is true.
Contrast Enhancement		
allowChanges	True or false	Allows or restricts the user from changing the Contrast Enhancement setting. Default is true.
contrastEnhancement	None, photo, black text on white, or white text on black	Adjusts the contrast settings of the document image. Default is no value.
Text Enhancement		
allowChanges	True or false	Allows or restricts the user from changing the Text Enhancement setting. 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. 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	Allows or restricts the user from changing the Perspective Correction setting. Default is true.
perspectiveCorrection	True or false	Corrects the angle in which the document image is captured. Default is true.
Lighting Correction		
allowChanges	True or false	Allows or restricts the user from changing the Lighting Correction setting. Default is true.
lightingCorrection	True or false	Corrects lighting in document images where the edges are darker than the middle. Enable this to correct non-uniform lighting conditions. Default is true.
Noise Reduction		
allowChanges	True or false	Allows or restricts the user from changing the Video Noise Reduction setting. 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. Default is 0.
Image Rotation		
allowChangees	True or false	Allows or restricts the user from changing the Image Rotation setting. Default is true.
imageRotation	None, 90, 180, or 270	Rotates the document image when it is captured. Default is none.
Storage Settings		
allowChanges	True or false	Allows or restricts the user from changing the Storage settings. Default is false.
Folder Memory Limit		
allowChanges	True or false	Allows or restricts the user from changing the Folder Memory Limit setting.

Field Definitions for MobileDocumentImaging_Config.xml (continued)

Field Name	Valid Values	Description or Notes
folderMemoryLimit	Unsigned integer 0 - xxx MB	The amount of storage space allowed for images in the Image Location folder. Once the limit is reached, a warning appears indicating that you need to increase the memory limit or delete older document images. Setting the memory limit to 0 allows unlimited space. Default is no value.
Captured Document Location		
allowChanges	True or false	Allows or restricts the user from changing the Captured Image Location. 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. Default is no value.
File Name Template		
allowChanges	True or false	Allows or restricts the user from changing the File Name Template setting. Default is false.
nameTemplate	Character string up to 200 characters	$(num) increments a counter $(num) is a timestamp
snapshotNameTemplate	Character string up to 200 characters	$(location) adds the last known GPS location $(field#) adds a file indexing value, where # corresponds to the indexing field number
Advanced Settings		
allowChanges	True or false	Allows or restricts the user from changing Advanced settings. Default is true.
enableBarcodeDecodingOnExit	True or false	Enables bar code decoding when you exit eMDI. Default is true. **Note:** When you capture document images, the bar code decoding is turned off.
Brightness		
allowChanges	True or false	Allows or restricts the user from changing the Brightness setting.
Brightness	-100 to 100	Adjusts the brightness when you are capturing a document image in a darker environment. Default is 0.

Field Definitions for MobileDocumentImaging_Config.xml (continued)

Field Name	Valid Values	Description or Notes
ColorModeBrightness Threshold		
allowChanges	True or false	Allows or restricts the user from adjusting the Color Mode Brightness Threshold setting. Default is false.
colorModeBrightness	Very dark, dark, normal, bright, or very bright	Sets the brightness threshold. 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, 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.
entryRequired	True or false	If it is set to true, the user must enter something before leaving the screen if a default is not set. Default is false.
minLength	Numeric	Default is zero if not required. If entryRequired is true, the default is one.
maxLength	Numeric	Specifies the number of characters the user can enter. Default is 30.

Field Definitions for MobileDocumentImaging_Config.xml (continued)

Field Name	Valid Values	Description or Notes
fieldType	AN, NUM, or DT	Users can enter alphanumeric characters up to the maxLength specified. If this is set to NUM, the user can enter only numeric values up to the maxLength specified. If this is set to DT, the application displays a Date Picker control used. 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, the user is able to pick from a list of included values (the default is empty). If no default value is included, the user is required to enter a value if Entry Required is included.

eMDI XML Example

This XML code example demonstrates how to use and edit the fields defined in the previous table.

```
<?.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">
```

```
  <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>
```

Troubleshoot 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: • For computers capturing a document image with the imager, tap **Start** > **Settings** > **System** > **Intermec Settings**. Browse to **Data Collection** > **Internal Scanner** > **Imager Settings** and tap **Menu** > **Restore Menu Defaults**. • For computers capturing a document image with the camera, tap **Start** > **Settings** > **System** > **Intermec Settings**. Browse to **Data Collection** > **Camera** > **Camera Settings** and tap **Menu** > **Restore Menu Defaults**.

Problems While Using eMDI (continued)

Problem	Possible Solution
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 your computer user manual.
Cannot capture document.	Reduce the image capture ratio and movement settings, and then try to capture the document again. Continue to reduce settings until you successfully capture an image, and then increase the settings gradually until the image quality is acceptable.

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