



Lexmark™

# **AccuRead OCR**

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## **Administrator's Guide**

November 2022

[www.lexmark.com](http://www.lexmark.com)

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# Change history

## November 2022

- Added support for PDF, JPEG, TIFF, XPS, OFD, XLSX, and CSV file formats.

## July 2016

- Added support for Croatian, Japanese, Korean, Romanian, Serbian, Simplified Chinese, Slovak, Slovenian, and Traditional Chinese.
- Added support for DOCX file format.

## January 2016

- Initial document release for multifunction products with a tablet-like touch-screen display.

# Overview

*AccuRead™* OCR lets you use optical character recognition (OCR) in your multifunction product (MFP) to digitize documents, resulting in the following benefits:

- Improved document management by using the search and edit functions
- Increased productivity
- Fewer errors
- Faster process time
- Use of emerging technologies

Use the application to create a searchable or editable file from hard-copy documents. Compared with the traditional desktop OCR solution, AccuRead OCR combines the scan and OCR steps into a single process. The application does not require you to install TWAIN or Image and Scanner Interface Specification (ISIS) drivers or adjust scan targets.

**Note:** The scan resolution of OCR is locked at 300 dpi to improve recognition results. Extensive testing shows that scanning at 300 dpi produced a significantly higher accuracy rate than scanning at lower resolutions. No improvements were found when scanning at resolutions higher than 300 dpi.

## System requirements

- Embedded Solutions Framework (eSF) v5 MFP with a hard disk
- At least 1GB of RAM
- AccuRead OCR license

## Supported applications

- **AccuRead Automate**—Scan and classify documents, extract content from fields, and then send them to a network or e-mail destination.
- **Scan Profile**—Scan a document to a computer.
- **USB Drive**—Scan a document to a flash drive.
- **E-mail**—Scan a document, and then send it to an e-mail address.
- **FTP**—Scan a document directly to a File Transfer Protocol (FTP) server.
- **Scan Center**—Scan a document, and then send it to one or more destinations.
- **Solution Composer**—Build custom workflow solutions for MFPs running the Solution Composer Agent application.

**Note:** For more information, see the documentation for the application.

# Supported formats and languages

## Output file formats

- **Searchable Portable Document Format (PDF)**—A single file with multiple pages, viewable with a PDF reader.
- **Text (TXT)**—A simple text document that supports limited formatting options.
- **Rich Text Format (RTF)**—A text document that supports text file formatting and images within the text.  
**Note:** This option is available only in some applications. For more information, see the documentation for the application.
- **DOCX**—A document based on an Extensible Markup Language (XML) format that can contain text, objects, styles, formatting, and images.  
**Note:** Some images, objects, or formatting on the scanned document may not appear exactly as on the original document.
- **PDF**—A single file that supports capturing and sending electronic documents in exactly the intended format.
- **JPEG**—A single file for compressing image files maintaining the original quality.
- **TIFF**—A single file to store raster graphics and image information.
- **XPS**—A single file that represents page layout files that are based on XML Paper Specifications created by Microsoft.
- **OFD**—A single file for storing digital data, usually maintained by a standards organization. The file can be used and implemented by everyone.  
**Note:** By default, the OFD format is not supported. To enable it, purchase a license bundle.
- **XLSX**—An XML-based file format for creating new spreadsheets.
- **CSV**—A single text file that allows data to be saved in a table-structured format.

## Recognized languages

- Croatian
- Czech
- Danish
- Dutch
- English
- Finnish
- French
- German
- Greek
- Hungarian
- Italian
- Japanese
- Korean
- Norwegian
- Polish
- Portuguese
- Romanian

- Russian
- Serbian
- Simplified Chinese
- Slovak
- Slovenian
- Spanish
- Swedish
- Traditional Chinese
- Turkish

## OCR performance

AccuRead OCR performance is measured as the time it takes to scan a document until you receive the resulting digital output.

Lexmark™ reviewed test suites created by standard organizations such as the International Standards Organization (ISO) and the International Electrotechnical Commission (IEC), and then selected ISO/IEC 24735. Using this suite, testing was performed for black-and-white and color scans on a CX720 MFP with 4GB RAM and an installed hard disk.

## Sample images included in the test suite

### Color Tutorial Topics

What is encoded 'in' image code values?  
 ...Image state explained

When to encode for print?  
 ...Early binding vs. late binding workflows

Why doesn't "perfect" math always yield a usable profile or desirable imaging result?  
 ...Color processing computational quality

How are white point, black point, and gamut extent rendered or re-rendered?  
 ...Essentials of color management

Color preference vs. color matching?  
 ...Building rendering intent transforms

Re-rendering to another output?  
 ...Device to device profile construction for interoperability

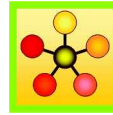


Understand how to take and preserve great photos!

### Give and take:

"From the trenches" expert user Q&A:  
 Color managed use case examples from creative and prepress workflows  
 Audience recommendations on future directions for color management

Wine & Cheese Networking Event:  
 Products and Applications Industry  
 Color Management Demonstrations



Ms. Jane Smith  
 999 Standards Way  
 Cooperativeville, UN 00000

Mr. K.D. Sang  
 333 Good Fortune Avenue  
 Exploration Point, UN 11111

Dear Mr. Sang,

International Standards and their development process support:

- facilitation of global trade,
- improvement of quality, safety security, environmental and consumer protection, as well as the rational use of natural resources,
- global dissemination of technologies and good practices,

all if which contribute to economic and social progress.

Through the network and collaboration of national member bodies, international liaisons, industry consortia, and dedicated experts, the international standards bodies constitute a leading platform for the production of global, market relevant international standards.

The consensus-building mechanisms employed in the development of these international standards are recognized and relied upon by industry, public authorities, consumers, and other stakeholders, thus helping to accomplish the aim of "one standard, one test, and one conformity assessment procedure accepted everywhere."

In this way, international standards organizations and their standards products contribute to a more efficient and sustainable world economy.

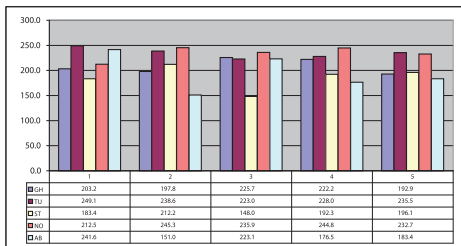
Sincerely,

Jane Smith

See You There!!!

### Summary Sheet Version 3.2 Intermediate Results Final Report finished by time of final reporting.

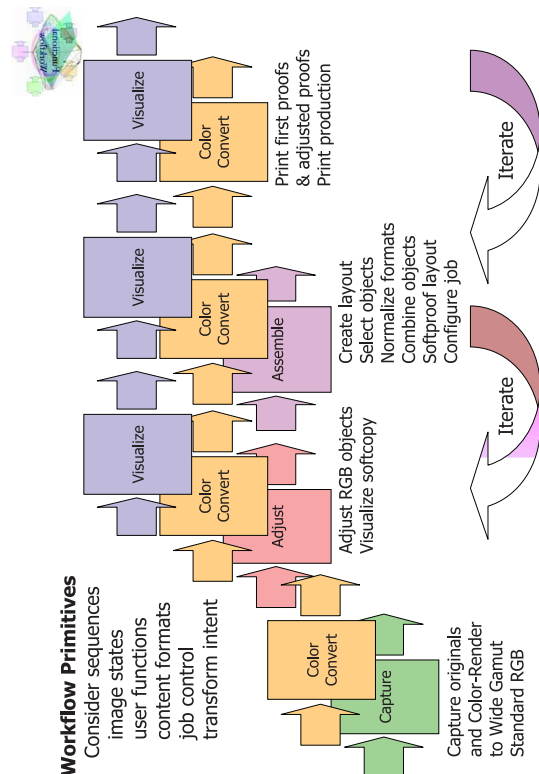
	EU	NA/SA	LA	Asia	AF/AU	EUE	NW	SW	ME	SE	MW	IST
First	99.0	17.6	51.9	112.2	142.9	104.	199.1	6.6	173.0	178.0	153.4	124.5
Second	153.2	147.8	126.6	143.6	121.4	138.4	50.9	186.6	139.0	45.5	32.3	133.4
Third	32.5	57.3	175.7	91.4	84.0	56.6	163.1	67.5	85.4	53.5	185.5	29.0
Fourth	46.7	93.7	24.2	172.2	47.9	132.6	26.7	128.9	163.1	103.9	162.3	55.6
Estimate:	203.2	197.8	225.7	222.2	192.9	188.4	249.1	238.6	223.0	228.0	235.5	183.4



	EU	NA/SA	LA	Asia	AF/AU	EUE	NW	SW	ME	SE	MW	IST
Ein	158.5	98.0	84.8	146.1	186.0	114.9	20.9	168.6	155.8	174.7	191.6	35.0
P	88.1	12.1	69.5	119.6	99.2	162.5	90.6	106.2	194.8	79.6	160.5	31.0
Drie	79.7	6.0	93.8	13.6	178.5	33.5	195.3	32.6	75.6	136.3	43.2	15.2
J	162.2	67.9	142.3	117.5	31.1	73.1	156.0	38.8	47.4	182.7	25.9	74.6
Vier	34.5	79.3	44.4	144.7	64.5	132.4	85.5	185.9	117.7	117.7	22.1	101.0
Estimate:	212.2	148.0	192.3	196.1	236.0	212.5	245.3	235.9	244.8	232.7	241.6	151.0

	EU	NA/SA	LA	Asia	AF/AU	EUE	NW	SW	ME	SE	MW	IST
Total	415.4	345.8	418.0	418.3	428.8	400.9	494.4	474.5	467.8	460.7	477.1	334.4

Last Update: April 2006  
 # of Regions: 11.0



The scanning test conditions were as follows:

- All scans used 1-page, 10-page, and 25-page documents.
- Scans were repeated multiple times to ensure reproducibility.
- Black-and-white scans were set to grayscale.
- Settings for each scan included the automatic document feeder, one-sided printing, letter, and mixed text/photo type.
- Scanning to flash drive with default settings was used.

### Average test results

Scan type	Performance results
Black-and-white scan	3–6 seconds per page
Color scan	4–7 seconds per page

## Sample documents

AccuRead OCR works best on documents with high contrast between the text and the background.

Reporting agent: John Doe - Agent Claim: 030205-623 1234A35-44B Claim rep:	Agent code: 11-117 Claim office: Santa Ana Claim rep phone:
INSURED-----	
Coverage: A 11/300/50, P13, D450 INCL GLASS, G450, V 100/300, 8 Q1 Policy number: 623 1234A35-44B      Insured: John Smith	
Date of loss: 03-01-05 Time of Loss: 5:00 PM Date reported: 03-02-05	Address: 111 North Street City: Santa Ana Phone: (949) 727-1733 Contact: John
Location of Loss: First Street	
VEHICLE 1 -----	
Insured vehicle/year/make/model/bodystyle: VIN: HSBME567234CV002288 Prior damage: Principal damage: REAR OF VEHICLE	2000 FORD FIESTA 4DR License number/state: 1Z45688
Driver: Smith, John	
Age: 24    Date of birth: 11-22-80    Sex: M Injuries: BROKEN NOSE, MULTIPLE ABRASIONS, NECK AND SHOLDER ARE SORE	

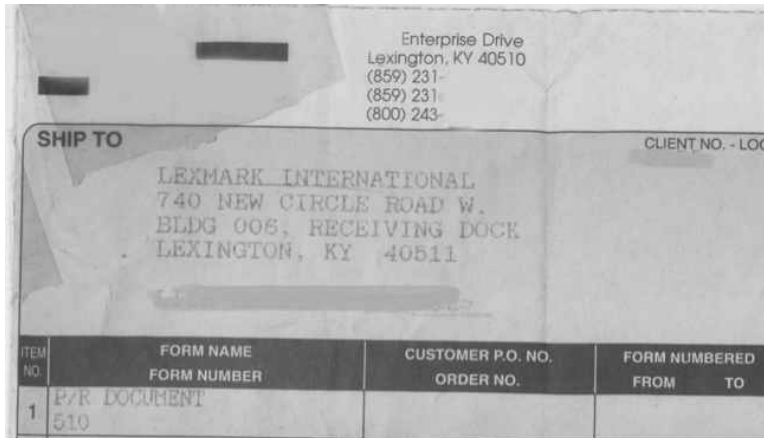
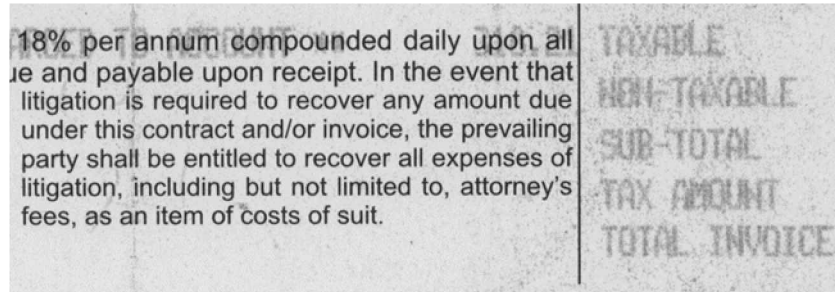


Item	Units	Description
1	1	<b>Measurement device q/m-meter</b> S/N #137 081 with automatic control of the airflow incl. software for Windows XP/7 and USB interface <b>net weight:</b> 25 kg <b>Tariff code:</b> 902780110
2	1	<b>Soft blow off cell</b> for q/m-meter <b>net weight:</b> 0,1 kg <b>Tariff code:</b> 902780110
3	1	<b>Mobile cage</b> to sample from surfaces especially for toner. New development for testing without charge <b>net weight:</b> 1 kg <b>Tariff code:</b> 902780110

All Prices are in : USD	Subtotal :	7,960.00
Remit To: CORPORATION COLLECTIONS CENTER DRIVE CHICAGO IL 60693 UNITED STATES	Tax:	349.24
	Total Invoice Amount:	8,309.24

Documents with low contrast between the text and the background or that contain both light and dark text require more advanced processing. OCR accuracy can be improved by adjusting the scan settings or by using a server-based OCR solution.

Accounts Payable PO Box Lexington KY  USA		
DATE	ACCOUNT No.	INTERNAL ORDER No.
03.07.12		MA1696
ITEM	STOCK NUMBER/DESCRIPTION	
1	Doctor Blade Scrap May 2012 Comm. Code: Net Unit Wt: Kg	



Documents that are not ideal for either AccuRead OCR or server-based OCR include the following:

- Images with significant noise that is similar in color to the text
- Images with dark text on a dark background
- Light images with dot-matrix characters

UPC#	ITEM	DESC
7304000218	112 108	WHGRN 6IN RL
7314000453	526 964	DARK SW WHE
7313002593	204 188	BRAISIN MFN 6P
6266230301	577 562	THKSL RDTOP32
6266230302	580 563	RSN RTOP 320
6266230333	5680	SAND WHITE 24OZ
6266230332	5681	SAND WHEAT 24OZ
7314002423	52 432	SL ST CRNRY2#
7314003206	350 431	PP NAT GRN 20
4812118904	2030	SAHARA PITAWHI6P
4812127707	2066	THOMAS PL NY BGL
7314003148	94 04P	.PK DIN RL 20
7314002293	173 417	HDAGIE RLS6P
7314000454	390	TELERAS 22 OZ 6P

CHW  
ST MARYS - MAINT DEPART  
NORTH 3RD AVENUE  
PHOENIX - AZ 85013

# Configuring the application

## Configuring the OCR settings

### Notes:

- You may need administrative rights to configure the printer settings.
- The procedures may vary depending on the supported application.

### 1 From the Embedded Web Server, do one of the following:

- Click **Settings > E-mail > E-mail Defaults > Global OCR Settings**.
- Click **Settings > FTP > FTP Defaults > Global OCR Settings**.
- Click **Settings > USB Drive > Flash Drive Scan > Global OCR Settings**.

**Note:** For other scanning applications, you can access the OCR settings in the Apps section. For more information, see the documentation for the application.

### 2 Select one or more of the following scan settings:

- **Auto Rotate**—Automatically rotates scanned documents to the proper orientation, depending on the orientation of the characters within the document.
- **Despeckle**—Removes background image noise, such as small defects or specks on the resulting images for OCR processing. This option does not change the output of the scanned document.
- **Auto Contrast Enhance**—Improves character recognition on documents with low contrast, such as gray text on shaded background. This option does not change the output of the scanned document.

### 3 If necessary, click **Recognized Languages**, select one or more languages that you want the application to recognize on the document, and then click **Save**.

**Note:** Enabling several languages may reduce OCR accuracy. Make sure to select only the required languages.

### 4 Click **Save**.

## Frequently asked questions

### Can AccuRead OCR read handwritten text?

No, the application does not support intelligent character recognition (ICR), which is required for handwriting recognition.

### What type of documents can be used with AccuRead OCR?

AccuRead OCR can read printed documents that have a high contrast between the text and the background. For more information, see [“Sample documents” on page 8](#).

### What is the maximum paper size supported by AccuRead OCR?

A3 is the maximum paper size supported by the application. When scanning documents larger than A4, more memory may be required.

# Notices

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November 2022

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