

Kofax Software's Calculation of Image Width & Length

(How Kofax ImageControls/VRS Software Calculates Image Dimensions)

Application Note

Date	October 21, 2010
Applies To	Kofax ImageControls Kofax VirtualReScan (VRS) 4.x and Elite
Summary	This application note provides an explanation of how the Kofax ImageControls/VRS software calculates image dimensions for typical page size documents.
Revision	1.2

Kofax ImageControls/VRS Image Dimension Calculation

This document provides a general explanation regarding the calculation of typical page size document image dimensions once they are scanned using the Kofax ImageControls/VirtualReScan (VRS) software.

Image Output Parameters

When pages are scanned; the Width and Length dimension of the output image will be determined based upon how the parameters below are defined within the Kofax ImageControls/VRS software.

- Color Mode setting
 - Bitonal
 - Grayscale
 - Color
- Applying Image Compression
 - CCITT
 - JPEG
- Page size setting
 - Letter
 - Legal
 - A3
 - A4
 - Etc.

Image Dimension Calculation

Calculation Guidelines

Depending on how the above defined, the Kofax software will round the image width and length following the guidelines in the table below.

Color Mode/Compression	Width Rounding Increment	Length Rounding Increment
Grayscale/JPEG Compressed	16 pixels	8 pixels
Grayscale/JPEG Uncompressed	Not rounded	Not rounded
Bitonal CCITT Compressed	16 pixels	2 lines
Bitonal CCITT Uncompressed	8 pixels	Not rounded

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Calculation Formula

The Kofax software formulates the actual size of the scanned images using the steps below.

1. Determines the page size as pixel or line value.
2. Calculates the value to be rounded using table above.
3. Rounds the results to the nearest whole number.
4. Formulates the new pixel or line value.
5. Formulates the actual image size.

Calculation Examples

Below, is an example of how the Kofax software will calculate a letter size (8.5" x 11") page which was scanned at 200 DPI with bitonal compression.

Paper Width calculation:

1. 8.5 inches x 200 dpi = 1700 pixels
2. 1700 pixels/ 16 pixel = 106.25 (106.25 is rounded down to the nearest whole number 106 pixels)
3. 106 pixels x 16 = 1696 pixels
4. 1696 pixels / 200 dpi = 8.48 inches (closet accepted value to actual size 8.5 inches)
5. Therefore the 1696 pixels (8.48 inches) value would be the output image width.

Paper Length calculation:

1. 11 inches x 200 dpi = 2200 pixels.
2. 2200 pixels/ 2 lines= 1100 pixels.
3. 1100 pixels x 2 lines = 2200 pixels.
4. 2200 pixels equate to 11 inches (2200 pixels / 200 dpi = 11 inches).
5. 2200 pixels (11 inches) would be the image actual Length.

Thus for a letter size page, the bitonal scanned image at 200 dpi with CCITT G4(3) compression has an actual size of 1696 x 2200 pixels, or 8.48 x 11 inches.

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Default Paper Size and Dimensions

The table below contains the Kofax default paper size codes and dimensions.

Paper Size code	Approximate Dimension (W x L)		Width in Bytes		
	Inches	Millimeters	200 DPI	300 DPI	400 DPI
A0	33.76 x 46.81	857 x 1188	844	1266	1688
A1	23.68 x 33.11	601.84 x 840	592	888	1184
A2	17.04 x 23.88	432 x 593	426	639	852
A3	11.68 x 16.53	296 x 419	292	438	584
A4	8.24 x 11.69	209 x 296	206	309	412
A5	5.68 x 8.27	144 x 210	142	213	284
B	10.92 x 17	277x 431	273	410	546
B0	40.52 x 57.32	1029 x 1455	1013	1520	2026
B1	28.64 x 40.55	727 x 1029	716	1074	1432
B2	20.24 x 28.66	514 x 727	506	759	1012
B3	14.32 x 20.27	363 x 514	358	537	716
B4	10.12 x 14.33	257 x 363	253	380	506
B5	7.16 x 10.12	181 x 257	179	269	358
B6	5 x 7.16	127 x 181	125	188	250
Business Check	8.48 x 4	215 x 101	212	318	424
Coupon	1 x 4	25 x 101	25	38	50
Legal	8.48 x 14	215 x 355	212	318	424
Letter	8.48 x 11	215 x 279	212	318	424
Personal Check	5 x3	127 x 76	125	188	250