



JPEG Source Vendor List

Adobe Developer Support

Technical Note #5095

14 February 1992

Adobe Systems Incorporated

Adobe Developer Technologies
345 Park Avenue
San Jose, CA 95110
<http://partners.adobe.com/>

Copyright © 1992 by Adobe Systems Incorporated. All rights reserved.

No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without the prior written consent of the publisher. Any software referred to herein is furnished under license and may only be used or copied in accordance with the terms of such license.

PostScript is a registered trademark of Adobe Systems Incorporated. All instances of the name PostScript in the text are references to the PostScript language as defined by Adobe Systems Incorporated unless otherwise stated. The name PostScript also is used as a product trademark for Adobe Systems' implementation of the PostScript language interpreter.

Any references to a "PostScript printer," a "PostScript file," or a "PostScript driver" refer to printers, files, and driver programs (respectively) which are written in or support the PostScript language. The sentences in this book that use "PostScript language" as an adjective phrase are so constructed to reinforce that the name refers to the standard language definition as set forth by Adobe Systems Incorporated.

PostScript, the PostScript logo, and the Adobe logo are trademarks of Adobe Systems Incorporated which may be registered in certain jurisdictions. QuickTime is a trademark of Apple Computer, Inc. Windows is a trademark of Microsoft Corporation. Image Compression Interface is a trademark of C-Cube Microsystems, Inc. PicturePress is a trademark of Storm Technology, Inc. Other brand or product names are the trademarks or registered trademarks of their respective holders.

This publication and the information herein is furnished AS IS, is subject to change without notice, and should not be construed as a commitment by Adobe Systems Incorporated. Adobe Systems Incorporated assumes no responsibility or liability for any errors or inaccuracies, makes no warranty of any kind (express, implied or statutory) with respect to this publication, and expressly disclaims any and all warranties of merchantability, fitness for particular purposes and noninfringement of third party rights.



Contents

JPEG Source Vendor List 5

Appendix: Printing JPEG-Compressed Files 9

JPEG Source Vendor List

PostScript™ Level 2 printers can print files in a number of popular data compression format, including JPEG, the new standard for color/grayscale image compression created by the Joint Photographic Experts Group. JPEG can achieve compression ratios as high as 80 to 1 with little or no noticeable effect on the quality of the image.

Developers who want to take advantage of JPEG decompression in PostScript Level 2 devices might want to license JPEG compression technology from another vendor instead of developing it themselves. (Due to contract restrictions, we at Adobe cannot license our implementation to developers.)

In an effort to help with that search, this document lists vendors who provide JPEG compression hardware and/or software. Adobe makes no claims as to the performance, efficiency, or correctness of the vendors' code. Adobe has merely been successful in printing files compressed by the listed vendors to PostScript Level 2 devices.

Note Adobe has not conducted extensive JPEG cross-testing. This list does not imply any kind of certification or endorsement of vendors by Adobe Systems Incorporated. Only one image was tested, and it was compressed at the vendor's site without an Adobe representative present. In some cases, problems with a vendor's implementation were discovered and had to be fixed before the file would print successfully.

The Appendix has a sample PostScript language program that decodes and prints a JPEG-compressed file.

Also be aware that while JPEG is a public standard, different implementation approaches mean that speed and image quality can vary significantly. It is the responsibility of each developer to identify its own requirements for JPEG compression and to work with individual vendors to determine whether those requirements can be met satisfactorily. The developer is responsible for working out its own business relationship with the vendor.

We will continue to add vendors to this list. Call the Adobe Developers Association for more up-to-date information.

Apple Computer, Inc.

Apple's test file was created using version 1.0B15 of the QuickTime™ PICT-Compressor. As of this writing, the software has not been released. More information on QuickTime is available from AppleLink on the QuickTimeTalk bulletin board or from the Apple Developers Hotline or AppleLink *DEVHOTLINE*.

Apple Computer (408) 974-4897 Developers Hotline
20525 Mariani Avenue
Cupertino, CA 95014

C-Cube Microsystems, Inc.

C-Cube Microsystems markets JPEG compression hardware and software. Their Image Compression Interface™ (ICI) Library accommodates C-Cube and other JPEG implementations. Their test file was created using a pre-release version of ICI Library for DOS and JPEG hardware compression driver.

C-Cube Microsystems, Inc. (408) 944-6300
309-A West Trimble Road Fax: (408) 944-6314
San Jose, CA 95131 contact: Sales Department

Handmade Software, Inc.

Handmade Software's test file was created using version 1.4 of the Image Alchemy software product. Image Alchemy is available as a stand-alone product, or Handmade will license the source code of individual modules.

Handmade Software (408) 358-1292
15951 Los Gatos Blvd., Suite 17 contact: Allan Hessenflow
Los Gatos, CA 95032

Ricoh Corporation

Ricoh Corporation's test file was created using version 6.0 of ImageWorks, a software program based on Ricoh's patented GCT technology. The source and technology is available (for software or ASIC implementation) through licensing agreement to OEM's and VAR's.

Ricoh Corporation (408) 281-1436
c/o Group Onstead Fax: (408) 226-8045
6206 Dunn Avenue contact: Edward W. Onstead
San Jose, CA 95123

Storm Technology, Inc.

Storm Technology's test file was create using version 2.0.1 of PicturePress™.
Storm will license source, object, and code resources.

Storm Technology, Inc.	(415) 691-1111
1101 San Antonio Road, Suite 101	Fax: (415) 691-9825
Mountain View, CA 94043	contact: Kurt Schwenk

Xing Technology Corporation

Xing Technology's test file was created using version 2.2 for DOS, which corresponds to version 1.2 under Windows® and library version 1.4 for ports to other platforms. Xing will license source code and libraries.

Xing Technology Corporation	(805) 473-0145
P.O. Box 950	Fax: (805) 473-0147
Arroyo Grande, CA 93421	contact: Howard Gordon

Appendix: Printing JPEG-Compressed Files

The following PostScript language program decodes and prints a JPEG-compressed file. In this example, the original photographic image was 24-bit RGB, 8 bits per component, 525 pixels high, 727 pixels wide, and 150 pixels per inch.

```
%!PS-Adobe-3.0
%%LanguageLevel: 2
%%EndComments

/DeviceRGB setcolorspace
126 270 translate      % Center image on letter-sized page
349 252 scale % Scale image to original size: 4.847 x 3.500 inches
% Create procedure to decode and image the DCT-encoded data.
% Note that 'exec' is followed by exactly one space character.

{
/Data currentfile /DCTEncode filter def
<<  /ImageType 1
    /Width 727
    /Height 525
    /ImageMatrix [727 0 0 -525 - 525]
    /DataSource Data
    /BitsPerComponent 8
    /Decode [0 1 0 1 0 1]
>> image
} exec
% ... Binary JPEG-encoded image data goes here ...
showpage
%%EOF
```

