Accelerating Application Development Through Hands-on Technical Training

Datacube® offers technical training courses for customers with varying levels of image processing experience—from newcomer to expert. Using lecture, demonstration, and hands-on lab exercises, our instructors teach you what you need to know to develop successful image processing applications, quickly and effectively.

Datacube instructors place a special emphasis on hands-on experience and practical application of course material. While the underlying information about image processing concepts and Datacube technologies is presented in a lecture format, the student's day is interspersed with numerous lab sessions that provide a working knowledge of the products and programming practices under examination.

Limited class size in combination with experienced instructors allows customization of class materials to meet the needs and interests of each individual class. Also, ample lab time is set aside to allow students to work one-on-one with instructors and other members of Datacube's technical staff on issues of particular importance to their applications.

Instruction Offered in:

Danvers, MA   **San Jose, CA**   **United Kingdom**

**Introduction to PC ImageFlow
Using the MaxPCI**

**Advanced Topics in PC ImageFlow
Using the MaxPCI**

**Introduction to ImageFlow
Using the MaxVideo 200/250**

**Advanced Topics in ImageFlow
Using the MaxVideo 200/250**

D A T A C U B E

Introduction to PC ImageFlow Using the MaxPCI (885-15)

Danvers, MA	San Jose, CA
January 11-15	May 17-21
March 15-19	July 26-30
June 7-11	*United Kingdom*
August 16-20	May 3-7
October 4-8	November 1-5

Advanced Topics in PC ImageFlow Using the MaxPCI (885-16)

Danvers, MA	San Jose, CA
January 18-20	May 24-26
March 22-24	August 2-4
June 14-16	*United Kingdom*
August 23-25	November 8-10
October 12-14	

Introduction to PC ImageFlow Using the MaxPCI is a five-day course for new Datacube users responsible for developing and maintaining image processing applications using PC ImageFlow. Lectures introduce fundamental image processing concepts and Datacube PCI-based hardware and software. Hands-on labs drive home new concepts and terminology by allowing students to put technology to use in actual applications. The labs make use of the PC ImageFlow function library and Datacube's MaxPCI® image processing engine. Topics covered include:

* Getting Started with PC ImageFlow
* Image Enhancement
* Statistical and Pixel-Based Image Analysis
* Advanced Data Control
* Basic MaxPCI System Design

At the completion of this course, students will be able to:

* Map basic image processing operations to the MaxPCI and other MaxPCI modules
* Configure and control Datacube's pipelined image processing systems using the PC ImageFlow function library
* Use Datacube's product documentation effectively during both application design and development

Demonstrations of additional Datacube software and hardware are available during the lab and may be covered as optional topics on the last day of class, depending upon the needs and interests of students.

Prerequisites
This course requires familiarity with Windows NT® and a basic understanding of programming in the C language using Windows™-based development tools like Microsoft Visual C+™. Familiarity with image processing concepts is assumed but not strictly required.

Advanced Topics in PC ImageFlow Using the MaxPCI is a three-day course for experienced MaxPCI users. The focus is on streamlining the PC ImageFlow application development process and increasing application control over image data. Students concentrate on complex application design issues and learn to specify systems that map quickly and easily to MaxPCI components and PC ImageFlow functions. The course focuses on event management using PipeOp Altering Threads (PATs) and the Event Manager, and advanced usage of the Arithmetic Unit (AU) and Advanced Memory (AM) components of MaxPCI,

Datacube's PCI-based image processing engine.

Topics covered include:
* Advanced Usage of the AM & AU Devices
* Using PAT Variables
* Advanced Use of the Event Manager
* Specifying Real-Time Systems
* Synchronizing Real-Time Systems to the Real World

At the completion of this course, students will know how to:

* Complete advanced image processing tasks with a deeper understanding of core Datacube devices
* Use PC ImageFlow features to improve system dependability and efficiency
* Use new methodologies for specifying real-time systems

Prerequisites
This course requires familiarity with Windows NT and a basic understanding of programming in the C language using Windows-based development tools like Microsoft Visual C+. Students should be familiar with all of the concepts covered in the Introduction to PC ImageFlow course.

D A T A C U B E

Introduction to ImageFlow Using the MaxVideo 250/200 (885-8)

San Jose, CA
September 13-17

Introduction to ImageFlow Using the MaxVideo 250/200 is a five-day course for new Datacube users responsible for the development and maintenance of VME-based image processing applications using ImageFlow®. Lectures introduce fundamental image processing concepts and Datacube hardware and software. Hands-on labs drive home new concepts and terminology by putting technology to use in actual applications. The labs make use of the ImageFlow function library and Datacube's MaxVideo® 250/200 image processing engine. Topics covered include:

- Getting Started with ImageFlow
- Image Enhancement
- Using Overlays to Enhance Displays
- Statistical and Pixel-Based Image Analysis
- Advanced Data Control
- Basic Image Processing System Design

At the completion of this course, students will know how to:

- Map basic image processing operations to the MaxVideo 250/200 and other MaxVideo family modules
- Configure and control Datacube's pipeline image processing systems using the ImageFlow function library
- Use Datacube's product documentation effectively during both application design and development

Demonstrations of additional Datacube software and hardware are available during lab the and may be covered as optional topics on the last day of class, depending on the needs and interests of the students.

Prerequisites
This course requires a basic understanding of programming in the C language; familiarity with UNIX®, LynxOS™, or a similar operating system; and text editing using either vi or emacs. Familiarity with image processing concepts is assumed but not strictly required.

Advanced Topics in ImageFlow Using the MaxVideo 250/200 (885-14)

San Jose, CA
September 20-22

Advanced Topics in ImageFlow Using the MaxVideo 250/200 is a three-day course for experienced MaxVideo 250/200 users. It focuses on streamlining the application development process and increasing application control over image data. Students concentrate on complex application design issues and learn how to specify systems that map quickly and easily to MaxVideo components and ImageFlow functions. Some lectures and lab exercises pick up where *Introduction to ImageFlow* left off and focus on

event management using PipeOp Altering Threads (PATs) and the Event Manager. Topics covered include:

- Advanced Usage of the MaxVideo 200/250's Advanced Memory (AM) and Arithmetic Unit (AU) Devices
- Using PAT Variables
- Advanced Use of the Event Manager
- Strategies for Specifying Real-Time Systems
- Synchronizing Real-Time Systems to the Real World

At the completion of this course, students will know how to:

- Complete advanced image processing tasks with a deeper understanding of core Datacube devices
- Use ImageFlow features to improve system dependability and efficiency
- Use new methodologies for specifying real-time systems that facilitate application development

Prerequisites
This course requires a basic understanding of programming in the C language; familiarity with UNIX, LynxOS, or a similar operating system; and text editing using vi or emacs. Students should be familiar with all of the concepts covered in the Introduction to ImageFlow Using the MaxVideo 250/200.

Introduction to Image Processing (885-

None Scheduled in 1999

Introduction to Image Processing is a five-day course for anyone interested in the general, fundamental concepts behind digital image processing technology. It supplies the theoretical background necessary for successful completion of subsequent Datacube-specific training courses. Topics covered include:

- Digital Image Representations
- Digital Image Processing Systems
- Sampling and Quantization of Image Data
- Image Transformations
- Image Enhancement Techniques

The theoretical materials and application techniques covered in lecture are supported by hands-on lab exercises using Datacube VME-based image processing development systems.

Prerequisites
Students should be familiar with the UNIX operating system environment to fully understand the product demonstrations and lab exercises.

To Register:

Register by phone, fax, or mail for any of the classes offered in the U.S. by providing the information requested on this course enrollment form. *To register for any course held in the U.K., contact our local distributor, Optimum Vision, at +44 1730 264016.*

Phone: Call Datacube at *+1 978-777-4200, ext. 3030*. Please have information regarding your method of payment ready when you call.

Fax: Complete this form and fax it to *+1 978-777-3117, attn. Marketing Coordinator*.

Mail: Complete this form and mail it to: *Datacube, Inc., attn. Marketing Coordinator, 300 Rosewood Drive, Danvers, MA 01923, USA.*

To ensure personal attention, Datacube limits enrollment to 10 students per course. Seats are made available on a first-come, first-served basis, so enroll early for the course of your choice. A confirmation of your enrollment will be sent to you upon receipt of this form and verification of your method of payment.

Personal Information

Please submit a separate form for each person attending from your organization.

Name:＿＿＿＿＿＿＿＿＿＿＿＿＿ Title: ＿＿＿＿＿＿＿＿＿＿＿＿＿

Company:＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿

Street Address: ＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿

City, State, Postal Code:＿＿＿＿＿＿＿ Country: ＿＿＿＿＿＿

Daytime Phone:＿＿＿＿＿＿＿＿＿ Fax:＿＿＿＿＿＿＿＿＿

Signature: ＿＿＿＿＿＿＿＿＿＿＿＿＿ Date:＿＿＿＿＿＿

Course Information

Complete the following form to indicate which courses this individual is registering for:

✔	Course	Date	Location	Fee (U.S.)	Due
	Introduction to ImageFlow Using the MaxVideo 200/250 (885-08)			$1750	
	Adv. Topics in ImageFlow Using the MaxVideo 200/250 (885-14)			$1050	
	Using the ImageFlow Custom Device Manager (885-17)			$1050	
	Introduction to PC ImageFlow Using the MaxPCI (885-15)			$1750	
	Adv. Topics in PC ImageFlow Using the MaxPCI (885-16)			$1050	
			TOTAL DUE:		

Method of Payment

❏ I have enclosed check # ＿＿＿＿＿＿ payable to Datacube, Inc.

❏ I have attached purchase order # ＿＿＿＿＿ to this enrollment form.

❏ Please charge my course fee to:

    ❏ VISA ❏ Mastercard   Account Number: ＿＿＿＿＿＿＿＿

    Cardholder's Name:＿＿＿＿＿＿＿ Expiration Date: ＿＿＿＿

    Cardholder's Signature: ＿＿＿＿＿＿＿＿＿＿

Prerequisites

Courses are taught in English and require fluency in both written and spoken English. See the individual course descriptions in this brochure for additional prerequisites.

Logistics

Courses are offered at three locations including Datacube's corporate headquarters in Danvers, MA; the Datacube Western Regional office in San Jose, CA; and our U.K. distributor's office, Optimum Vision, Ltd., in Great Britain. All three training facilities provide hands-on access to the latest Datacube hardware and software.

Course Fees

Listed fees are for courses offered at our North American training facilities. For courses held in the United Kingdom, contact Optimum Vision at *+44 1730 264016*.

Fees for courses offered at Datacube training facilities cover instructors' fees and materials only. Students are responsible for their meals and accommodations. Contact Datacube for suggested accommodations.

On-site Courses

On-site offerings of Datacube's standard courses and/or creation of courses to fit your application development needs may also be arranged. For on-site courses, Datacube trainers arrive with all the necessary materials, to create an efficient and comfortable learning environment. Contact Datacube for available dates and pricing of on-site courses.

Cancellation Policy

In the event that you are unable to attend a course for which you have enrolled, you may send a substitute. If you must cancel your enrollment and you notify Datacube more than five days in advance, your enrollment fee will be fully refunded. No refunds will be issued for cancellations made within five days of the start of a course.

In the event that Datacube cancels a scheduled course, your enrollment fee will be credited toward another course of your choice, or a full refund will be issued upon request.

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