XILINX®

Technical Support And Services

A complete and uniquely accessible offering of worldwide technical support services is available to Xilinx users.

Xilinx Field Application Engineers at sales offices and technical support centers worldwide provide local engineering support, including design evaluation of new projects, close consultation throughout the design process, special training assignments, and new product presentations. Because their role as advisors and troubleshooters keeps them constantly on the go, they are best used not for general questions, but for more targeted queries such as those related to architectural recommendations. The world-wide network of Xilinx sales representatives and distributors also provide local technical support for Xilinx users.

Technical and applications queries can be directed to support.xilinx.com, the Xilinx technical services web site, or the telephone "hotlines". Xilinx provides 24-hour access to the Answers database, product and applications information, and a variety of files and utilities via support.xilinx.com and the Software Updates area. Hotline telephone support provides access to permanent teams of expert Application Engineers located in the United States, United Kingdom, France, Germany, and Japan. These engineers can handle problems and answer questions right on the spot, and are contributors to, as well as, users of the Answers database, accessible at **support.xilinx.com** (Figure 1).

Many different publications assist users in completing designs quickly and efficiently, including technical manuals, data sheets, application notes, the Xilinx DataSource CD-ROM (a regularly-updated collection of the latest data sheets, application notes and design hints), and the quarterly XCell newsletter. Most of these publications are available on the **support.xilinx.com** web site.

For more in-depth support and instruction, a dedicated training organization conducts technical training classes worldwide. Courses geared for both novice and experienced users are available.

The following Technical Support Services are discussed in more detail in this chapter:

- **support.xilinx.com** (World Wide Web site)
- Software Updates
- Hotline (telephone support)
- Online Software Manuals
- Customer Education

Figure 1:   http://support.xilinx.com — For the Designing Engineer

support.xilinx.com Web Site

support.xilinx.com, the Xilinx World Wide Web site, provides instant access to the latest information, ranging from the Configuration Problem Solver, Application Notes, and Data Sheets to online software manuals. It is designed to give users quick, easy, and intuitive access to the desired information.

support.xilinx.com holds a wealth of Xilinx information, readily available at your fingertips. What's more, Smart-Search, our industry-wide search engine, is the definitive resource for all Programmable Logic information on the web. SmartSearch searches over 50 different web sites rich in Programmable Logic content, providing central access to a vast amount of data. SmartSearch Agents will watch the Web for you and inform you via e-mail when new or updated information is added to any of the sites served by SmartSearch. SmartSearch Agents allow you to stay up-to-date in the rapidly changing world of Programmable Logic. You can also use support.xilinx.com to open a case via the web, giving you access to Xilinx Applications Engineers dedicated to providing resolutions to problems that may arise during the desing process.

New information is constantly being added to the Xilinx site. The following is a list of some of the technical information now available on **support.xilinx.com** (as of February, 2000):

- Over 100 Application Notes organized by system type (e.g., PCI, DSP, and PCMCIA), function (e.g., memory functions, arithmetic functions, and busses), component product family, and application.
- Complete and detailed data sheets on all Xilinx products.
- Over 3000 records in our Technical Answers database containing answers to frequently-asked technical questions.
- Xilinx Product Change Notices and Xilinx Customer Updates
- Access to XCell, our quarterly journal for programmable logic users.
- Software Updates
- Links to technical Xilinx presentations via Marshall Electronics' NetSeminarTM archives.
- Configuration Problem Solver
- Online Software Manuals
- Technical and Applications Information
- The Answers Search area of **support.xilinx.com** provides access to technical and applications information that assists design engineers in solving problems. The Answers Search area is accessible from the Xilinx home page under "Troubleshoot".
- The Answers Search area provides access to a variety of technical and applications resources including:

- Over 4000 technical solutions and frequently asked questions.
- The Software Update Area for access to patches, utilities, and updates.
- Expert Journals that provide flow-specific collections of information including FAQs, Tips, and Hot Topics.
- Application Notes
- Information about Worldwide Hotline access
- Learning Services including e-Learning
- Online Software Manuals

File Access and Transfer

Through the file download areas, users have on-line access to a variety of useful files, including user manuals, automated tutorials, design examples, and utilities. Data files can be exchanged with Application Engineers through a secure section of the file download area.

Hotline Telephone Support

A network of Technical Support Hotlines provides Xilinx users with a service contract telephone access to Xilinx Application Engineers dedicated to providing resolutions to problems that may arise during the design process. Xilinx Application Engineers use many of the same resources and databases that are now directly available to users via the support.xilinx.com web site. Technical questions also can be submitted via the web or e-mail. See Table 1 on page 3 for more information.

Technical Literature

Xilinx offers many different publications to assist users in completing designs quickly and efficiently. These include technical manuals, Data Books, data sheets, application notes, the Xilinx DataSource CD-ROM, the XCell newsletter, and the Answers Database. Most of these publications are available on-line at the support.xilinx.com web site.

As part of the development system products, Xilinx provides manuals and supporting documents for the development system tools, libraries, CAE tool interfaces, and related software tools. Many of these manuals are available on the CD-ROM that holds the software as well as in hard-copy format. On-line help facilities also are an integral part of the development system products.

The Xilinx DataSource CD-ROM

The Xilinx DataSource CD-ROM is a collection of current data sheets, application notes and other new technical documentation provided on a CD-ROM for easy reference by the design engineer. All the material on the CD-ROM is provided in Adobe Acrobat format for easy viewing and printing. The Xilinx DataSource CD-ROM is updated regularly as new material becomes available.

Table 1: Hotline Telephone Support

Country	Hours	Hotline	Fax	E-mail
All Regions of the World (support.xilinx.com): >	web site: **http://support.xilinx.com**			
North American Support:	**Mon.- Wed., Fri**. 7:00 AM - 5:00 PM **Thur.** 7:00 AM - 4:00 PM Pacific Time	**800-255-7778** or 408-879-5199		
United Kingdom Support:	**Mon.-Thur.** 9:00 AM - 12:00 PM, 1:00 PM - 5:30 PM **Fri.** 9:00 AM - 12:00 PM, 1:00 PM - 3:30 PM	**(44) 1932-820821**	(44) 1932-828522	ukhelp@xilinx.com
France Support:	**Mon.- Fri.** 9:30 AM - 12:30 PM, 2:00 PM - 5:30 PM	**(33) 1-3463-0100**	(33) 1-3463-0959	frhelp@xilinx.com
Germany Support:	**Mon.-Thur.** 8:00 AM - 12:00 PM, 1:00PM - 5:00 PM **Fri.** 8:00 AM - 12:00 PM, 1:00 PM - 3:00 PM	**(49) 89-93088-130**	(49) 89-93088-188	dlhelp@xilinx.com
Japan Support:	Mon., Tue., Thur., Fri. 9:00 AM - 5:00 PM **Wed.** 9:00 AM - 4:00 PM	**(81) 3-3297-9163**	(81) 3-3297-0067	jhotline@xilinx.com
Korea Support:		**(82) 2-761-4277**	(82) 2-761-4278	korea@xilinx.com
Hong Kong Support:		**(85) 2-2424-5200**	(85) 2-2424-7159	hongkong@xilinx.com

10

XCell Newsletter

XCell, the quarterly journal for Xilinx programmable logic users, is dedicated to supplying up-to-date information for system designers. A typical issue includes descriptions of new products, updates on component and software availability and revision levels, application ideas, design hints and techniques, and answers to frequently-asked questions.

To add your name to the XCell subscription list, please send your name, company affiliation, and mailing address to XCell editor, via **FAX** at **408-879-4676**.

Xilinx Customer Education

Who Should Recieve Training?

All users of Xilinx products should participate in at least one of our training courses. Participation in a Xilinx training course is one of the fastest and most efficient ways to learn how to design with Xilinx FPGA devices. Hands-on experience with the latest information and software will allow you to implement your own design in less time with more effective use of the devices. Not only design engineers, but also test engineers, component engineers, CAD engineers, technicians, and engineering managers may want to participate in training in order to understand the Xilinx products. Learning Services offers a number of courses in a variety of delivery methods.

Training Course Delivery Methods

1. **Day-Segment Courses**. Xilinx continues to develop and instruct traditional day length courses. Working with various Xilinx product development groups, new courses are created and made available to reflect the current product releases. This serves to make training available when you need it and on the products you need it for. These classes are held in centers around the world. Specific onsite instruction is also available at your facility. Check our Web site at http://support.xilinx.com and click on Courses under Education.

2. **e-Learning.** Xilinx offers both live and recorded one hour e-Learning courses available at the convenience of your own desktop. Check our Web site at http://support.xilinx.com and click on Courses under Education.

3. **Computer-Based Training (CBT)**. Xilinx introduced computer-based training with Verilog CBT. Verilog CBT will allow you to learn the Verilog language at your own pace without ever leaving your office. Verilog CBT is based on the traditional 3-day course, converted into a computerized self-study program.

4. **Modules**. A module is a group of topics, one hour or longer, that are specific to products, audiences, and solutions. They can be taken as stand-alone courses or grouped. Modular courses will be released on a weekly basis. As modules are made available, you can build your own modular library or product-focused reference base. Modules will provide just-in-time training, giving you the ability to access development information quickly. For up-to-date information on modules, check our Web site at http://support.xilinx.com and click on Courses under Education.

What You Will Learn

Not only will you learn about our products, but we will also recommend the best ways to use the software based on our years of experience with thousands of designs. You will learn how to efficiently enter, implement, and verify your design. You can use the Xilinx automatic mode or take a power-user approach and guide the automatic tools to the best implementation of your design.
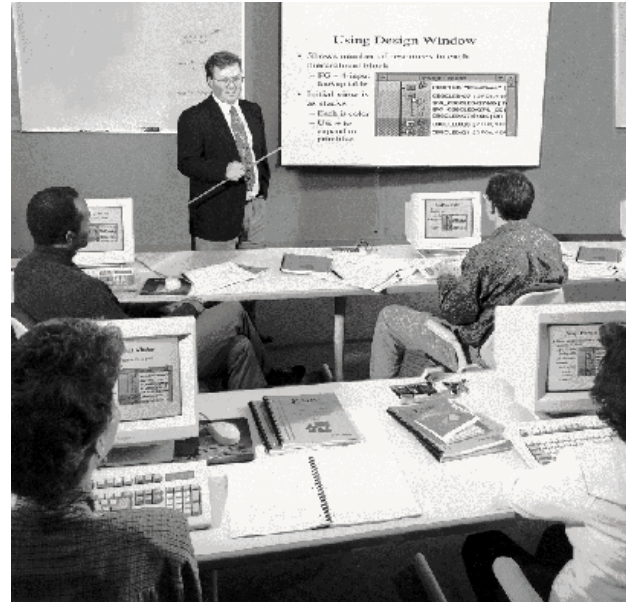

Figure 2:   Customer Service Training

Prerequisites

Students need only have a background in digital logic design. Basic familiarity with the PC or workstation is helpful but not required. It will benefit you to learn your design entry tool of choice before attending the Xilinx course.

If you would like to prepare for the training course to maximize your learning, you should complete the tutorials available in the development system. There are tutorials available for the third-party tools for which Xilinx sells the interface.

Benefits

Make Fewer Design Iterations

By learning the proper approach, you will save time and expense in prototyping and debugging designs. However, if you do need to make changes to your design, you will learn how to do this quickly and efficiently.

Get to Market Faster

Getting your product to market faster is probably one of the key reasons you are using Xilinx products in the first place. Studies have shown that time-to-market often has a greater effect on profits than development costs. Training will allow you to get your product to market on schedule, allowing your company to reap the rewards that follow.

Control Your Training Time

With the variety of course delivery vehicles available from Xilinx Customer Education, you can decide how you want and when you want to learn. You set your training schedule

and determine the amount of information you need to complete your design. With the choices of e-Learning, self-study computer-based training, hour-long modules, and full day courses, learning Xilinx products is now flexible. Extensive Xilinx documentation is provided with all course delivery methods.

Lower Production Costs

By learning how to use the device effectively, you may be able to get more logic into a smaller device, and/or operate at a higher speed. As a result, you may be able to save on the cost of the device itself and the surrounding logic on your board.

Increase Quality

Effective verification techniques prove the quality of your Xilinx-based design. Higher quality leads to less maintenance and repair costs, improving customer satisfaction.

Time and Cost Savings

Learning Xilinx software tools is an investment that will pay for itself with the first Xilinx design that you begin. The instructor-led courses are fast-paced, each providing as much information as possible in the short time available. Computer-based training and hourly modules provide just-in-time solutions-based training. With computer-based training, you can set your training pace and hourly modules let you schedule your time efficiently. The hands-on learning experience provided throughout your training ensures that you retain information and are capable of applying it. Just as Xilinx products reduce your development time, the flexibility of the training can reduce your design time.

You can reduce your training costs by:

- Having training conducted at your facility
- Participating in self-education courses with e-Learning, modular or computer-based training

Hands-On Experience

Each course includes hands-on labs. There is at least one computer for every two people in the class.

Platforms

The courses use PC platforms with either WIN95 or NT operating systems.

Instructors

Xilinx training courses have been successfully held worldwide for over eight years. The instructors are Xilinx experts who are skilled at passing that knowledge on to fellow engineers. A dedicated Customer Education organization at Xilinx works closely with the Applications and Engineering groups to keep the courses up-to-date with the latest improvements to Xilinx and third-party tools.

Course Materials

All course materials are supplied by Xilinx. Every student gets an excellent reference tool in the form of course notes, which include all the material presented during the course. The course notes are bound for easy use and include additional reference material beyond what is covered in the course.

Course Descriptions

Instructor-Led Courses

Xilinx courses will cover the latest released versions of our devices and development systems. While all available products will be covered, emphasis will be placed on the more popular and/or recommended solutions. New courses are being produced frequently to ensure a high level of support for our tools. If you have any questions on coverage of a particular product, please go to our Web site at **http://support.xilinx.com** and click on Courses under Education.

Computer-Based Training (CBT)

This is a self-study training technique that allows users to learn at their own pace. Verilog CBT is the first of such training provided by Xilinx. It is based on the popular three-day Verilog class. You can learn a comprehensive Verilog language from the convenience of your desktop by using the Verilog CBT program. This professional learning tool delivers all the essentials for writing, simulating, and synthesizing Verilog HDL for Xilinx devices.

Key Features:

- High-Quality HDL instruction developed by Verilog experts
- Easy navigation through a complete set of Verilog training modules
- Full Indexing for easy reference
- Extensive design exercises and Verilog examples
- Coding guidelines, formatting conventions, and practical tips
- Glossary of key Verilog terms
- Instruction and advice to help you avoid common errors
- Serves as an excellent reference tool for the life of the project
- On-screen instruction with matching audio narration
- Powerful Macromedia CBT application

10

Modular Courses

A training module is a unit of instruction that can stand-alone or function as a part of a set of modules or a course. Modules will be one or two hours of training content on a specific topic. They will be developed and delivered according to the audience type. New modules and courses will be released weekly, so please check the Web site at http://support.xilinx.com and click on Courses under Education to see the latest and greatest Customer Education offerings. Here are examples of existing audiences and modules:

- **New FPGA Designers**
  - Basic Synchronous Design
  - HDL Editor
  - MAP, PAR
  - Constraints
  - Timing Analyzer
  - Coding Styles
  - Help
  - Intro to VHDL
  - VHDL Language
- **Advanced FPGA Designers**
  - Advanced Constraints
  - Advanced Timing Analyzer
- **Virtex Designers**
  - Virtex Architecture
  - System-level Design Using Virtex
  - Applications

Training Locations

Domestic and International Locations

Xilinx courses are held in North America and also throughout Europe, Asia, India, Israel, Australia, South Africa, and South America. Classes held in international locations vary in length and tuition but are based on the same material used in North America. The schedule lists the courses as well as the contact's name and phone number.

On-Site Courses

Xilinx can bring the training course to your own facility for the greatest convenience to your company.

On-Site Courses Provide Additional Benefits:

No Travel Costs
- On-site Xilinx training courses eliminate travel time and expenses:
  - No airfare
  - No hotel bills
  - No car rental

Courses Tailored To Your Needs

On-site courses can be tailored to meet the specific needs of your company:

- Convenient class time and location
- Projects of a proprietary nature can be discussed openly
- Students can use their own equipment and begin an actual design during the course

Scheduling an On-site Course

To schedule a training class at your facility and determine pricing, call 877-XLX-CLASS [(877) 959-2527]. On-site training courses are popular, so the more advanced notice we have, the better our ability to schedule your class exactly when you want it.

Money-back Guarantee

We are so confident you will be satisfied with the benefits of a Xilinx training course that we offer this guarantee:

- Full refund of the course cost if you are not completely satisfied.

Enrollment

Class size is limited, so early enrollment is recommended. In order to register for a class, please follow the steps listed below:

1. Enroll: Contact the registrar to enroll yourself in a class (877) 959-2527 (877-XLA-CLASS). You must have your tuition payment information available at the time of enrollment. We now accept credit cards (Visa, MasterCard, American Express, and Discover) as well as Purchase Orders and checks.

2. Confirmation: Following enrollment in a class, the registrar will send you a confirmation letter.

Please call **877-XLX-CLASS [(877) 959-2527]** if you have any questions or do not receive a confirmation letter.

If you are unsatisfied or have further questions, call **877-XLX-CLASS [(877) 959-2527] (toll-free)**.

Student Cancellations

Course tuition is fully refundable up to two weeks before the class starts. Cancellations within two weeks (7-13 days) of the class start date will incur a 50% cancellation fee. Those who cancel fewer than 7 days prior to the class will be billed for the full amount of the tuition.

Course Cancellations

Xilinx reserves the right to cancel any class with up to 14 days notice. Typically our process is to look at a class' enrollment numbeR 14 days before a its scheduled start date and determine if the number of students enrolled is sufficient for us to hold or cancel the class. Please be aware of this when booking your travel arrangements.