

November 24, 1997 (Version 2.0)

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

Xilinx Field Application Engineers, located 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 worldwide network of Xilinx sales representatives and distributors also provide local technical support for Xilinx users.

Technical and applications queries can be directed to WebLINX, the Xilinx world wide web site, or the telephone "hotlines". Xilinx provides 24-hour access to the expert *Answers* database, product and applications information, and a variety of files and utilities via WebLINX and the file download areas. 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 WebLINX (www.xilinx.com).

Many different publications assist users in completing designs quickly and efficiently, including technical manuals, data sheets, application notes, the AppLINX CD-ROM (a regularly-updated collection of the latest application notes and design hints), and the quarterly XCell newsletter. Most of these publications are available on the WebLINX 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:

- WebLINX World Wide Web site
- Internet File Download area
- Hotline telephone support
- Technical literature
- Training Courses



WebLINX - The Homepage for Programmable Logic (www.xilinx.com)

WebLINX Web Site (www.xilinx.com)

WebLINX, the Xilinx World Wide Web site, provides instant access to the latest information, ranging from Product Overviews, Application Notes, and Data Sheets to investor information and employment opportunities. Designed to provide users with quick, easy, and intuitive access to the desired information.

WebLINX holds a wealth of Xilinx information, readily available at your fingertips. What's more, *SmartSearch*, 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.

New information is constantly being added to the Xilinx site. The following is a list of some of the technical information now available on WebLINX (as of July, 1997):

- Over 60 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 1900 records in our Technical Answers database that contains 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 and patches.
- Links to technical Xilinx presentations via Marshall Electronics' NetSeminar™ archives.

Technical and Applications Information

The Answers area of WebLINX provides access to technical and applications information that assists design engineers in solving problems. The Answers area is accessible from the Xilinx home page either through the "Answers" icon or by selecting the "Support" topic. Further, this collection of technical and applications information is immediately accessible through the button bar that is located at the bottom of every Web page.

The Answers area provides access to a variety of technical and applications resources including:

- Over 1900 technical solutions and frequently asked questions.
- The File Download Area for access to patches, utilities, and updates.

- Expert Journals that provide flow-specific collections of information including FAQs, Tips, and Hot Topics.
- Documents and applications material.
- Information about Worldwide Hotline access and training course availability.

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 area of the file download area.

Hotline Telephone Support

A network of Technical Support Hotlines provides Xilinx users with direct 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 WebLINX web site. Technical questions also can be submitted via fax or E-mail.

All regions of the world (WebLINX):

web site: www.xilinx.com

North American support:

Hours: Mon. - Wed., Fri. 6:30 AM - 5:00 PM
Thur. 6:30 AM - 4:00 PM Pacific Time
Hotline: 800-255-7778 or 408-879-5199
Fax: 408-879-4442
E-mail: hotline@xilinx.com

United Kingdom support:

Hours: 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
Hotline: (44) 1932-820821
Fax: (44) 1932-828522
E-mail: ukhelp@xilinx.com

France support:

Hours: Mon. - Fri.
9:30 AM - 12:30 PM, 2:00 PM - 5:30 PM
Hotline: (33) 1-3463-0100
Fax: (33) 1-3463-0959
E-mail: frhelp@xilinx.com

Germany support:

Hours: 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
Hotline: (49) 89-93088-130
Fax: (49) 89-93088-188
E-mail: dlhelp@xilinx.com

Japan support:

Hours: Mon., Tue., Thur., Fri.
9:00 AM - 5:00 PM
Wed.
9:00 AM - 4:00 PM
Hotline: (81) 3-3297-9163
Fax: (81) 3-3297-0067
E-mail: jhotline@xilinx.com

Korea support:

Hotline: (82) 2-761-4277
Fax: (82) 2-761-4278
E-mail: korea@xilinx.com

Hong Kong support:

Hotline: (85) 2-2424-5200
Fax: (85) 2-2424-7159
E-mail: hongkong@xilinx.com

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 AppLINX CD, the XCell newsletter, and The Answers Database. Most of these publications are available on-line at the WebLINX 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 that holds the software as well as in hardcopy format. On-line help facilities also are an integral part of the development system products.

AppLINX

AppLINX is a collection of current 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 is provided in Adobe Acrobat format for easy viewing and printing. The AppLINX CD is updated regularly as new material becomes available.



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.

Programmable Logic Training Courses

All users of Xilinx products should attend one of our training courses. Attending a Xilinx training course is one of the fastest and most efficient ways to learn how to design with FPGA devices from Xilinx. Hands-on expert instruction with the latest information and software will allow you to implement your own designs 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 attend the course in order to understand the Xilinx products.

A variety of courses are offered to meet your specific needs. Courses are held regularly in centers around the world, and can even be brought to your own facility.

What You Will Learn

Not only will you learn about our products, but we will 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.

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.

Benefits

Start or Complete Your Design During the Training Course

Bring your design to the course and consult with the instructor. Course size is limited to allow more interaction. You can spend extra time getting your design completed before returning home. Call to see if your design entry tool will be available at the course.

Reduce Your Learning Time

Extensive Xilinx documentation and tutorials provide the information you need to complete your design. But attending the training course for focused, interactive learning is faster than a question-and-answer approach on your own. Instead of interruptions and piecemeal self-education, you will quickly become your company's expert in Xilinx designs.

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. 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.

Lower Production Costs

By learning how to use the device effectively, you may be able to get more logic into a smaller device, 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 will prove the quality of your Xilinx-based design. Higher quality leads to less main-

tenance and repair costs, and improved customer satisfaction.

Time and Cost Savings

Attending a Xilinx training course is an investment that will pay for itself with the first Xilinx design that you begin. The courses are fast-paced, each providing as much information as possible in the short time available. Hands-on experiences throughout the courses make sure that the information is retained and applied to practical applications. Just as Xilinx products reduce your development time, attending a training course can reduce your design time. The person attending the course will be an in-house expert who can be utilized by other members of your company.

You can reduce your travel costs by attending a course scheduled in your area, or having the class brought right to your facility. The tuition pays for the course notes and expert, in-person instruction, which can be priceless when trying to meet a schedule.

Course Descriptions

Hands-On Experience

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

Platforms

PC systems using Win95 and NT operational systems.

Instructors

Xilinx training courses have been successfully held worldwide for over seven years. The instructors are Xilinx experts who are skilled at passing that knowledge on to fellow engineers. A dedicated 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. The course notes are bound for easy use and include additional reference material beyond what is covered in the course.

Most courses include a full lunch, with morning and afternoon snacks. Let the education registrar know if you have any special dietary needs when registering for a course.

Product Coverage

Xilinx courses cover the latest released versions of our devices and development systems. New products are added to the class as they become available. If you have any questions on coverage of a particular product, please call Xilinx Customer Education.

FPGA Tools Course Outline

This Xilinx training course is two and one-half days in length. All North American training sites, and most international locations, teach the same course.

This course is heavily focused on the labs, which feature Xilinx' Foundation Software.

- Introduction
- Basic XC4000X Architecture
- CPLD Design
 - 9500 Architecture/Features
- Design Entry
 - Design Flow
 - Xilinx Libraries/ LogiBLOX Components
- Design Manager
 - Implementing the design
 - Design Flow
- Simulation
 - Xilinx Simulation/Verification
 - LogiBLOX Simulation
- Configuration
 - Options/Methods/Debugging
- FPGA Combinatorial Logic Resources
- Designing for FPGA Registers
- Designing for FPGA Memory
- Designing for FPGA I/O
- Low Cost FPGA Families
- Constraining the Design
 - Location/Implementation
 - Timing
- Flow Engine Overview
 - New Terminology
- Custom Options
 - MAP, PAR, and Timing Report Options
 - Flow Options
 - Advanced Operations

M1 Update Course

The one day course is focused on the latest released products from Xilinx. An update course is available describing the new features of the M1 release. The course will be offered for a limited time at regional sites, or can be brought to your facility. Those customers who have already attended a Xilinx course or have experience using Xilinx products should consider attending the one-day M1 Update training session. These sessions will be most useful if you have the latest software. Browse the Xilinx Web site for scheduled courses, or contact the Xilinx Education Registrar to hold an Update training session at your site.

M1 Update Course Outline

- Introduction
- M1 Release
 - Changes
 - Future Updates
- FPGA Architecture
 - Features
 - Size
 - Power
- Tool Usage
 - Design Flow
 - Options
 - Software Strategies
- New Features
 - Checkpoint Verification
 - Constraints
- LogiBLOX
- LogiCORE/AllianceCORE
- Conversion Guidelines

VHDL Seminar (Esperan-Based)

This one day seminar consists of one-half day of presentation and one-half day of hands-on training using the Foundation tools. The seminar is designed to be an introduction, providing the students with enough training so that they are conversant with the language and can write simple VHDL functions.

This course is presented on an as needed basis. Please contact your local Xilinx or distributor sales office for additional course and schedule information.

The one-day VHDL seminar includes the following topics:

- VHDL Application Introduction
- VHDL Language Introduction
- Signals and Data Types
- VHDL Operators
- Concurrent and Sequential Statements
- Writing VHDL for Synthesis

The lab exercises presented during the one-day VHDL seminar consist of:

- Familiarization with Xilinx Foundation Series Synthesis Tool
- Familiarization with the Decoder Design
- Writing Your First VHDL Code
- Adding the Alarm Signal
- Adding a Seven Segment Display Driver
- The Alarm Register
- A Counter
- The Alarm Clock Controller (a State Machine)

Future Foundation and Synopsys Courses

With the release of the XACTstep version M1 software, the Xilinx education organization is poised to provide additional training courses to our customers. A Foundation schematic-entry course and a Synopsys synthesis course will be offered in the winter 1997 time period. Customers should call the Xilinx Education Registrar for up-to-date course schedules and locations.

Training Locations

Xilinx Headquarters

Courses are held regularly at Xilinx headquarters in San Jose, California. During the class, you may elect to meet one-on-one with Xilinx Applications engineers to discuss specific issues not covered in the course. Topics may include using a specific third-party tool, optimizing your particular design, or more advanced issues beyond the coverage of the course.

North American Distributor Locations

Xilinx distributors sponsor training courses jointly with Xilinx, using the same material as the headquarters courses. Since the distributor sponsors the course, the tuition cost is often reduced for customers of the sponsoring distributor. Check with the distributor when registering. Locations include over seventy cities across North America. Contact your local distributor or Xilinx headquarters for information on courses in your area.

International Locations

Xilinx courses are held throughout Europe, Japan, Asia, India, Israel, South Africa, South America, and other international locations. Courses vary in length and tuition, but are based on the same material used in North America. Contact your local Xilinx sales office or representative for information about courses in your area.

On-Site Courses

Xilinx can bring the training course to your own facility for the greatest convenience to your company. To schedule a training course at your facility and determine pricing, call the Xilinx sales office nearest you, or your local Xilinx sales representative. On-site training courses are popular, so the more advanced notice we have, the better our ability to schedule your course exactly when you want it.

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 course time and location
- Projects of a proprietary nature can be discussed openly
- Students can use their own equipment and begin an actual design right in course

Costs: North America

Prices start at \$4,500 for a minimum course size of six students. (Prices are subject to change without notice.)

Costs: International

- Prices vary; contact your local Xilinx sales representative. (prices are subject to change without notice.)

Included in class fees:

- A Xilinx-certified instructor
- Training materials for each student
- PC for every two students (or if you prefer, the training labs can be performed on your PCs or workstations)

Registration

Tuition

Course tuition in North America is \$1,000 per student for the two and one-half day courses at Xilinx headquarters. The distributor-sponsored courses are offered at a reduced rate of \$495 for customers of the sponsoring distributor. Check with the distributor when registering. On-site courses start at \$4,500 per class, and vary according to the course and the number of students. For specific pricing of on-site courses, call the Xilinx Education Registrar or your local sales office. For international locations, call the local registrar for pricing. (Prices and course schedules are subject to change without notice.)

| Location | | Course Title | Tuition | Benefits |
|---------------|-------------------------|-------------------------|-------------------|--|
| North America | Xilinx Headquarters | FPGA Tools M1 Update | \$1,000 \$99 | <ul style="list-style-type: none"> • Can meet with applications engineers • Courses held frequently • All class types available |
| | Xilinx Sales Office | VHDL Course | \$99 | <ul style="list-style-type: none"> • One-day introduction to VHDL |
| | Distributor Locations | FPGA Tools M1 Update | \$495 \$99 | <ul style="list-style-type: none"> • Courses held frequently; locally available • Lower cost for Distributor's customers • One-day focus on M1 software release |
| | On-Site | | Starts at \$4,500 | <ul style="list-style-type: none"> • Convenience; focus on specific issues |
| International | International Locations | | Varies | <ul style="list-style-type: none"> • Offered in over 21 countries • Native language |
| | On-Site | | Varies | <ul style="list-style-type: none"> • Convenience • Can focus on specific issues |

Money-back Guarantee

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

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

Enrollment

To enroll in a Xilinx training course, several enrollment methods are available. The fastest and easiest enrollment mechanism is the on-line registration via the Xilinx web site at "www.xilinx.com". An alternate method for enrollment is to contact the registrar at the course location, or for Xilinx headquarters courses, call (408) 879-5090 or FAX (408) 879-4676 the Education Registrar for additional course information.

Course size is limited, so early enrollment is recommended. **Students are considered enrolled only after a check, money order, or purchase order for the course tuition has been received.** Please mail your payment to the registrar of the location of your training class. For Xilinx-sponsored courses, make checks/P.O. payable to Xilinx, Inc.

Enrollments will be acknowledged with a confirmation letter. We encourage you to sign up early, as courses may fill up quickly.

Cancellations

Course tuition is fully refundable up to two weeks before the scheduled course starts. Cancellations within two weeks of the scheduled course will incur a 25% cancellation fee. Cancellations within one week of the scheduled course date may only be applied toward a future course date. Rescheduling is allowed until three working days before the start of class. Student substitutions may be made at any time.

Xilinx Customer Education Registrar

Customer Education Registrar
 Xilinx, Inc.
 2100 Logic Drive
 San Jose, CA 95124
 Phone: (408) 879-5090
 Fax: (408) 879-4676,
 - attn: Customer Education Registrar
 E-mail: customer.training@xilinx.com
 Register on-line: <http://www.xilinx.com>