



## **Release Document**

***XACTstep* Version 5.2/6.0  
Third-Party Alliance**

**October 1995**

**Read This Before Installation**



# XACT 6.0 Install for Windows

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The following information supersedes the instructions in the *Getting Started & Installation Guide* for installing XACTstep 6.0 software on PCs running Microsoft Windows. These steps minimize XACTstep 6.0 problems caused by PC resource issues and Microsoft Windows configurations that are not optimal.

**Note:** After installation is complete, the install program will present you with required environment variable settings for your autoexec.bat program. In some cases this may include multiple paths to the PROSeries tools. The duplicate entry will not prevent the software from running, and can be deleted.

For complete configuration instructions, please see the “Setting Up the Xilinx Environment” chapter of the *Getting Started & Installation Guide*.

1. Before starting the XACTstep 6.0 installation process, Xilinx recommends that you make backup copies of the win.ini and system.ini files located in your Windows directory.
2. Before starting Windows, run a batch file called rmwin32s.bat in DOS to remove any previous version of the Microsoft WIN32S driver that may be installed on your PC.

The latest version (v1.25.142.0) is necessary for use with XACTstep 6.0 and is compatible with all previous versions. If you are not sure if WIN32S is installed on your PC, you can still run this program. If the driver is not installed, rmwin32s.bat tries to delete certain files and then reports that these files could not be found.

To run `rmwin32s.bat`, first identify the CD-ROM drive letter, for example, `D:\`.

From the DOS command prompt, type the following:

```
d:\xbbs\utils\rmwin32s.bat
```

If the WIN32S driver is found, all associated files are removed from your system, and you are prompted to manually remove `winmm16.dll` and `device=...W32S.386` from your `system.ini` file.

3. Next, start Microsoft Windows.
4. In Windows, select **File** → **Run** from the Program Manager.
5. In the command line box, type the following:

```
d:\win32s\disk1\setup.exe
```

This step installs the latest version of the Microsoft WIN32S driver needed for XACTstep 6.0 applications.

6. Select **File** → **Run** from the Program Manager.
7. In the command line box, type the following:

```
d:\xbbs\utils\xinfo\xinfo.exe
```

XINFO is a Xilinx utility that analyzes your computer's system resources for compatibility with the XACTstep software. Review the "Hints" page for suggestions on changes that you should make to your PC configuration to allow XACTstep 6.0 to run more efficiently on your PC.

8. Select **File** → **Run** from the Program Manager.
9. To begin the installation of the XACTstep 6.0 toolset, type the following in the command line box:

```
d:\setup.exe
```

**Note:** Preliminary calculations of disk space requirements may be inaccurate, depending on how your hard disk is formatted. To identify required disk space accurately, the Install program must calculate disk space on the basis of the selected products list. Using Custom Install, you can correctly calculate the required disk space by turning on the Analyze Disk Space option after making your selections. Using Quick Install, simply continuing the installation process by selecting the Install button correctly calculates the available disk space.

10. After installation is complete, exit from Windows.

11. Using a text editor, load c:\autoexec.bat.

Certain XACT*step* tools require that the temporary variable be set. If you do not see a line such as “set temp=c:\temp” in your autoexec.bat file, add it to this file. (The location of the temporary directory is not important; only the existence of the variable and a valid path are important.)

12. Next, reboot your PC to ensure that all environment variables have been set correctly.

Refer to the *Getting Started & Installation Guide* for information on other topics, such as environment variables and disk space requirements.



# Installing Online Documentation

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Starting with the 5.2/6.0 release, online documentation is now available on the Sun and HP workstations.

## Installing Online Documentation on a Sun Workstation

To use online documentation, you must install the Acrobat reader and the online documents on your workstation.

### Installing the Reader and Documents

Version 1.0 of the Acrobat reader is included on the XACTstep Sun 5.2 CD-ROM disk. To install the Acrobat reader, follow the instructions on page 4-4 of the *Getting Started & Installation Guide*.

Because the online documents are in tar format, you must use the XACTstep 5.2 installation program to install the online documents on your workstation. Refer to the Sun4 instructions on page 3-2 of the *Getting Started & Installation Guide*.

### Opening Documents with Acrobat Reader — Sun Workstation Installations

To access the AcroRead program from the command line, follow these instructions:

1. Include the path to the /AcroRead\_1.0/bin directory in the \$path variable of your configuration file,
2. At the command line, type the following to invoke the Acrobat reader:

```
acroread
```

The Open file dialog box of the Acrobat reader is displayed.

3. Specify the following path in the Filter box of the Open file dialog box to view Xilinx Online Documents:

```
/xact_dir/online/online/*.pdf
```

To view Xilinx Application Information, specify the following path:

```
/xact_dir/online/onlinedb/*.pdf
```

4. Select the document you want from the displayed list of .pdf files.

## Installing Online Documentation on a HP Workstation

To use online documentation, you must install the Acrobat reader and, optionally, the online documents on your workstation.

### Installing the Reader and Documents

Version 2.1 of the Acrobat reader is available on HP workstations on a separate enclosed Acrobat CD-ROM disk also provided by Xilinx. Use the instructions outlined in this section to install the Acrobat software on an HP workstation.

Installation of the Acrobat reader requires the HP-UX 9.05 operating system, the HP-VUE window manager, and 12 MB of disk space. You do not have to install the online documents to your hard disk, but if you choose to do so, you will need 52 MB of disk space.

1. Insert the CD-ROM disk into the CD-ROM drive.
2. Mount the CD-ROM drive. You need system administrator privileges to complete this step.
3. Invoke the Acrobat Installation program as follows:

```
/cdrom_dir/acrobat/unix/install
```

By default, after you have installed the desired products to your HP workstation, the installation program copies the Acrobat reader to the /usr/AcroRead directory. Xilinx recommends that you install the reader to /xact\_dir/doc/AcroRead. You must include the AcroRead/bin directory in your path.



For more information, print the “Introducing Adobe Acrobat Reader 2.1” file located in `/cdrom_dir/acrobat/unix/instguid.txt`.

**Note:** If you want to install the document files on your workstation, copy the `/cdrom_dir/onlindb` and `/cdrom_dir/online` directory trees from the XACTstep Version 5.2 CD-ROM to your disk. For example:

```
cp -Rp /cdrom_dir/onlindb /xact_dir/doc/onlindb ↵
cp -Rp /cdrom_dir/online /xact_dir/doc/online ↵
chmod -R u+w xact_dir/doc↵
```

## Opening Documents with Acrobat Reader — HP Workstation Installations

To view documents on an HP workstation, follow the instructions outlined in this section. For additional information refer to the “Viewing Documents with Acrobat Reader” section on page 4-7 of the *Getting Started & Installation Guide*.

You can either start the reader first and then decide what type of documents you want to view, or you can open the type of documents you want to view at the same time you load the reader.

To start the reader without specifying any documents, follow these instructions:

1. Ensure that the Acrobat Reader `AcroRead/bin` directory is in your path.
2. To start the reader, type the following:  
**acroread**
3. Specify one of the following paths corresponding to the type of documents you wish to view:

To view Xilinx Online Documents, open the file:

```
/cdrom_dir/online/linkpage.pdf
```

or

```
/xact_dir/online/linkpage.pdf
```

To view Xilinx Application Information, open the file:

```
/cdrom_dir/onlindb/dblink.pdf
```

or

`/xact_dir/onlindb/dblink.pdf`

To specify the type of documents you wish to view at the time you invoke the reader, include the path you want after the `acroread` command as follows:

To view Xilinx Online Documents, use the command:

`acroread /cdrom_dir/online/linkpage.pdf &`

or

`acroread /xact_dir/online/linkpage.pdf &`

To view Xilinx Application Information, use the command:

`acroread /cdrom_dir/onlindb/dblink.pdf &`

or

`acroread /xact_dir/onlindb/dblink.pdf &`

# Versions and Compatibility

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The following master table indicates Xilinx core software with the current version numbers.

## Software Versions

Program	Windows Version	DOS Version	Workstation Version
APR	5.2	5.2	5.2
APRLOOP	5.2	5.2	5.2
CstCvt	5.2	5.2	5.2
Design Manager	6.0	N/A	N/A
Floorplanner	6.0	N/A	5.2
Flow Engine	6.0	N/A	N/A
Hardware Debugger	6.0	N/A	N/A
HM2RPM	5.2	5.2	5.2
LCA2XNF	5.2	5.2	5.2
MakeBits	5.2	5.2	5.2
MakePROM	5.2	5.2	5.2
MAP2LCA	5.2	5.2	5.2
MemGen	5.2	5.2	5.2
PPR	5.2	5.2	5.2
PROM File Formatter	6.0	N/A	N/A
Report Browser	6.0	N/A	N/A
SymGen	5.2	5.2	5.2
Timing Analyzer	6.0	N/A	N/A

<b>Program</b>	<b>Windows Version</b>	<b>DOS Version</b>	<b>Workstation Version</b>
XACT	5.2	5.2	5.2
XBLOX	5.2	5.2	5.2
XChecker	5.2	5.2	5.2
XCK88	N/A	5.2	N/A
XDE	5.2	5.2	5.2
XDelay	5.2	5.2	5.2
XDM	N/A	N/A	5.2
xdm	5.2	5.2	5.2
XEMake	N/A	N/A	5.2
XEMake6	6.0	N/A	N/A
XKey	5.2	5.2	N/A
XMake	5.2	5.2	5.2
XNFBA	5.2	5.2	5.2
XNFCvt	5.2	5.2	5.2
XNFMAP	5.2	5.2	5.2
XNFMerge	5.2	5.2	5.2
XNFPrep	5.2	5.2	5.2
XPP	5.2	5.2	5.2
XPrint	5.2	5.2	5.2
XSimMake	5.2	5.2	5.2

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## Introduction

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Welcome to the Third-Party Alliance Package from Xilinx!

Xilinx software products have prefixes to designate the type of products you receive:

- DS = Development System (new system)
- DX = Development System Upgrade (upgrade to current system)
- SC = Support Contract (update to current system)
- SR = Support Re-instatement (update for non-current system)
- BU = Base Update (update to current system)

The labels on the box indicate the product that you have received.

## Contents

The Development System (DS) product you received contains software, documentation, and/or hardware. New DS Base and Standard packages contain hardware, software, and documentation. Interface and Update products have software and documentation only.

### Hardware<sup>1</sup>

The hardware consists of the following items.

- XChecker Download and Readback Cable set (included in STD packages)
- Parallel Download Cable (included in Base packages)

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1. Included in DS packages only.

- Xilinx “C” Programmable Key (a beige key included in STD PC packages)

## Software

The Xilinx software for all platforms is provided on CD-ROM. It consists of the following.

- Installation Program
- FPGA Core Implementation Tools (DS-502)
- FPGA Base Implementation Tools (included in DS-3PA-BAS only)
- XEPLD Translator Core Tools (DS-550)
- X-BLOX (DS-380) (Included in STD packages only)

## Documentation

The following documentation is available in print for Third-Party Alliance products.

- *Getting Started & Installation Guide*
- *Additional Products & Services Packet*

## Online Documentation

The following online documentation is included with your Third-Party Alliance products.

- *Libraries Guide*
- *Libraries Supplement Guide*
- *X-BLOX Reference/User Guide*
- *Floorplanner Reference/User Guide*
- *Design Manager/Flow Engine Reference/User Guide*
- *Timing Analyzer Reference/User Guide*
- *Hardware Debugger Reference/User Guide*
- *PROM File Formatter Reference/User Guide*
- *Development System User Guide*
- *Development System Reference Guide, Vols 1-3*



- *Hardware & Peripherals User Guide*
- *XEPLD Reference Guide*
- *XEPLD Design Guide*
- *XEPLD Schematic Design Guide*
- *XEPLD Reference Guide (for Windows)*
- *XEPLD Schematic Design Guide (for Windows)*

**Note:** Xilinx Core FPGA and EPLD documentation for Sun and PC platforms is available online via CD-ROM. Some documentation for product updates and for other workstation platforms is included on the basis of product configuration.

Selected Xilinx manuals are available in printed form. See the “Documentation Order Form” in the *Additional Products & Services Packet*.

## Maintenance and Support

This product comes with free technical and product information telephone support (toll-free in the U.S. and Canada). You can also fax and e-mail your questions. See the “Xilinx Customer Support Information” chapter of this release note for offices and phone numbers.

This product comes with one year of maintenance<sup>1</sup>; you will receive all software and documentation updates automatically during that time. You will receive a notice at the end of the year giving instructions on how to renew your maintenance contract.

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1. Not included with DS-3PA-BAS.



## Features in This Release

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The FPGA and EPLD Implementation tools have many new and upgraded features, aimed at increasing your productivity. A full explanation of the new tools and features is found in the appropriate manual.

## Windows Support

New for this release are a number of Windows-based tools that improve the ease of use of the Xilinx design process for PC users.

### The Design Manager

The Design Manager for this release features:

- Control of design versions and revisions
- Access to all tools in the design process

### The Flow Engine

The Flow Engine is also new for this release. The Flow Engine is run from the Design Manager to:

- Perform the implementation of your design
- Provide graphical feedback on the implementation process

### The Report Browser

The Report Browser offers these features:

- Provides a view of all the report files that are generated during the implementation process.

- Allows you to read reports while the implementation process is running.
- Shows you which reports are new and which have been read.

## **Timing Analyzer**

The Timing Analyzer for this release is the Windows version of the powerful XDELAY Static Timing Analyzer. It now supports XC7000 devices. The Timing Analyzer:

- Performs static timing analysis on routed designs.
- Provides the option to analyze designs at different speed grades.
- Contains multiple report viewing capability for side-by-side comparisons.

## **Hardware Debugger**

The Hardware Debugger offers the following features:

- Allows you download and readback bitstreams.
- Debug options provide sophisticated single-step capabilities and viewing of internal FPGA nodes during debug.

## **PROM File Formatter**

The PROM File Formatter is the Windows versions of the MAKEPROM program that is used to create bitstream daisy chains. It offers the following features:

- Formats a Xilinx bitstream into a standard prom file format.
- Combines multiple bitstreams into a single configuration data stream for daisy-chained configurations.
- Partitions a large configuration data stream into multiple prom files.

## **Online Help**

All of the new Windows programs are supported by online help that is available from the toolbar.

## **Floorplanner**

The Floorplanner provides a convenient way for you to control the generation of constraints. While not an essential part of the design process, floorplanning can increase the performance of a design.

## **Online Tutorials**

All Windows tools are supported with online tutorials<sup>1</sup>. These tutorials provide descriptions, step-by-step procedures and tool usage demonstrations.

## **Online Documentation**

Xilinx core software user manuals are now available online using an Adobe Acrobat reader. Double-click on the Xilinx document icon to display a home page that lists all online manuals. From this list you can then select a manual to view.

## **DOS Support**

All of the Windows programs, except the Floorplanner, have DOS executable counterparts with similar capability. These DOS programs are the same as offered in previous releases.

## **XACT Performance Enhancements**

The XACT Performance handling of RAMs and Latches has been improved so that timing relationships for these elements are easier to define. XC7000 device support has also been added to XACT Performance.

## **XC5200 Support**

The XC5200 family support is provided so that you can take advantage of the newest, low-cost FPGA family from Xilinx.

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1. PC users only.

## Place and Route Improvements

Xilinx has improved the quality and runtime of the place and route process. This improvement is most noticeable in the case of XC3000A and XC3000L designs run with `place_with_timing=true`.

## Fitter Improvements

Xilinx has improved the first-time fit rate and pin locking performance of the XC7000 EPLD Fitter.

## Applications Information

The applications information contained on the CD for this release include the following:

### XAPP

The XAPP application notes and supporting files that are described in *The Programmable Logic Data Book* are included in the xapp directory. Each file in this directory is a compressed volume in ZIP format. Each zip file includes a README file that summarizes the application.

### XBBS

Data files, unreleased utilities, and application notes from the Xilinx Bulletin Board System are available in the xbbs directory. The following sub-directories are located in the xbbs directory:

- oldvllib — Pre-Unified library Viewlogic libraries
- swhelp — Boundary scan files, library files, and miscellaneous data files
- utils — Unreleased software utilities. (Please note that these utilities are not tested to normal Xilinx quality standards.)

**Note:** In the swhelp and utils directories, you will find a file called, `filelist.txt` that contains a short listing and brief description of the files.

- `vlog_intfc`<sup>1</sup> — Verilog-XL interface executables and libraries. This directory includes two scripts, `funcnetx`, for generating a functional simulation netlist, and `timenetx`, for timing simulation-netlist generation. A full description and instructions on using this package can be found in Chapter 4 of the XACT Core Tools Release Document.

**Note:** This package does not support post-synthesis functional simulation of Synopsys designs, and has only been tested for use with Verilog-XL. It has not been qualified with any other third party simulators.

## X-BLOX Support

X-BLOX supports the XC5200 device family for all platforms.

### Increased Clock-to-Clock Performance

This section describes changed criteria for merging flip-flops into IOBs.

Platform: All

Architecture: XC4000A/D, XC3000A/L, XC3100A

The default criteria for merging registers into IOBs have changed to improve CLOCK to CLOCK performance. If you do not specify otherwise, X-BLOX pushes a flip-flop into an IOB where it improves the CLOCK to OUT performance according to the following rules.

- X-BLOX merges a flip-flop into an OUTFF in an IOB if one or both of the following conditions apply.
  - The flip-flop D pin is sourced (either directly or indirectly) by *non-combinational* logic. The indirect case occurs where one or more buffers and/or inverters, and no other logic, are found between the non-combinational source and the D pin.
  - The source X-BLOX symbol (if the flip-flop was generated from an X-BLOX symbol) has a parameter that indicates it should be implemented in an IOB, for example, `STYLE=IOB`.
- Criteria for merging flip-flops into INFFs in an IOB have not changed.

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1. Sun and HP workstations only.

**Note:** In a design compiled with a previous version of X-BLOX, the clock-to-clock timing might be faster if STYLE is not specified. However, in some cases the clock-to-pad speed might be slower. If clock-to-pad speed is critical in your design, use registers in the IOB. For example, use the STYLE=IOB or STYLE=OFD definitions for DATA\_REG.

## Reduced Memory Usage

For all platforms and architectures, memory saving enhancements made to the X-BLOX functional simulation mode lead to significant reductions in memory usage, by as much as 50 percent for certain styles of designs.

## X-BLOX Reference/User Guide Changes

The following modules have changed to support the XC5200 architecture. Modules which are not included are valid as described in the *X-BLOX Reference/User Guide*. The XC5200 attribute information in this section will be incorporated in the next revision of the *X-BLOX Reference/User Guide*.

### ACCUM

Attribute: STYLE may be set to ALIGNED, UNALIGNED, or RIPPLE.

### ADD\_SUB

Attribute: STYLE may be set to ALIGNED, UNALIGNED, or RIPPLE.

### ANDBUS

Attribute: STYLE is not supported.

### BIDIR\_IO

Attribute: NODELAY attribute can now be attached.

### COMPARE

Attribute: STYLE may be set to ARITH, TREE, or RIPPLE. STYLE=WIRED is not supported.



## **DATA\_REG**

Attribute:

STYLE=FD is added for implementation using CLB flip-flops.

STYLE=LD is added for implementation using CLB latches.

STYLE=CLB is not supported, use STYLE=FD or STYLE=LD.

STYLE=IOB is not supported.

STYLE=ILD is not supported.

STYLE=IFD is not supported.

STYLE=OFD is not supported.

**Note:** For XC3000 and 4000 designs, the NODELAY attribute can be added to the DATA\_REG symbol. For XC5200 designs, attach the NODELAY attribute to either the INPUTS or BIDIR\_IO symbols.

## **INC\_DEC**

Attribute: STYLE may be set to ALIGNED, UNALIGNED, or RIPPLE.

## **INPUTS**

Attribute: The NODELAY attribute can now be attached.

## **SHIFT**

Attributes: remain unaffected.

## **TRISTATE**

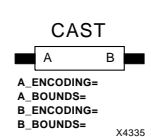
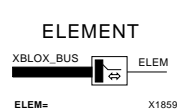
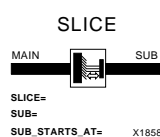
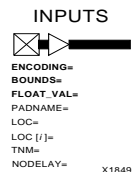
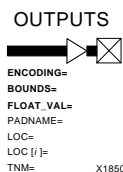
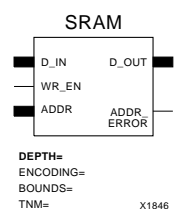
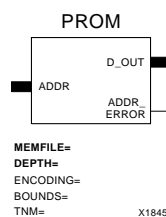
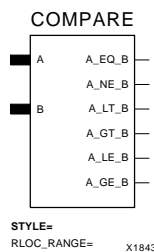
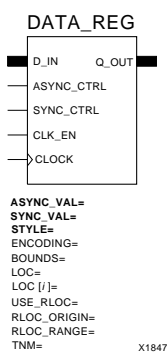
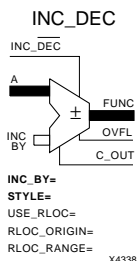
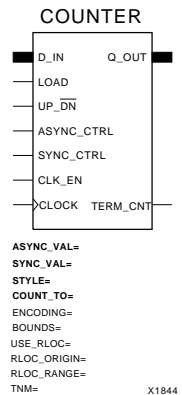
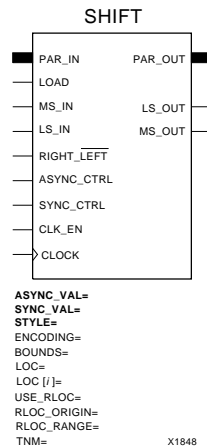
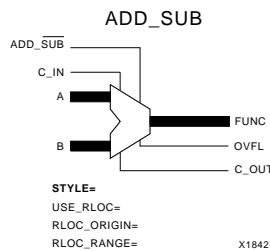
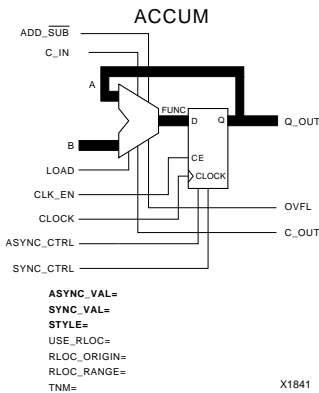
Attribute: FLOAT\_VAL is not supported.

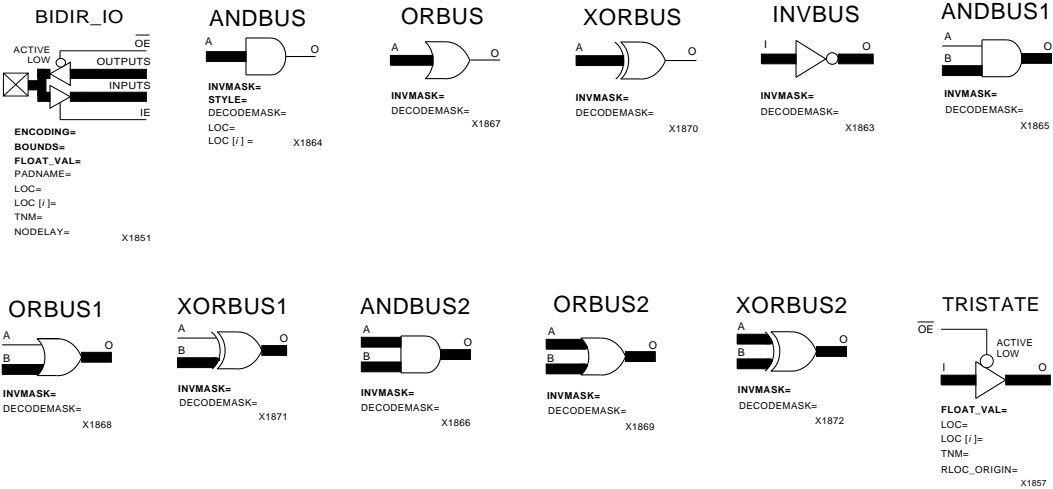
## **SRAM**

The SRAM symbol is not supported for XC5200.

# Summary of X-BLOX Symbols

Attributes that appear on schematic symbols are in **bold type**.  
Optional attributes appear in plain text. The X-BLOX symbols that are not displayed are valid as shown on the X-BLOX Symbols Reference Card.







# Chapter 3

## Device and Package Support

The following is a master table of Xilinx devices for this release. For more information on architectural families and specific device parameters, see *The Programmable Logic Data Book*.

Device	Packages	Speed Grades
XC2018 <sup>a</sup>	PC44, PC68, PC84, PG84, TQ100, VQ64	-33, -50, -70, -100, -130
XC2064 <sup>a</sup>	PC44, PC68, PD48, PG68	-33, -50, -70, -100, -130
XC2018L <sup>a</sup>	PC84, VQ64, VQ100	-10
XC2064L <sup>a</sup>	PC68, VQ64	-10
XC3020 <sup>a</sup>	CB100, CQ100, PC68, PC84, PG84, PQ100	-50, -70, -100, -125
XC3030 <sup>a</sup>	PC44, PC68, PC84, PG84, PQ100, TQ100	-50, -70, -100, -125
XC3042 <sup>a</sup>	CB100, CQ100, PC84, PG84, PG132, PP132, PQ100, TQ100	-50, -70, -100, -125
XC3064 <sup>a b</sup>	PC84, PG132, PP132, PQ160	-50, -70, -100, -125
XC3090 <sup>a b</sup>	CB164, CQ164, PC84, PG175, PP175, PQ160, PQ208	-50, -70, -100, -125
XC3020A	CB100, PC68, PC84, PG84, PQ100	-6, -7
XC3030A	PC44, PC68, PC84, PG84, PQ100, VQ64, VQ100	-6, -7
XC3042A	CB100, PC84, PG84, PG132, PP132, PQ100, TQ144, VQ100	-6, -7
XC3064A <sup>b</sup>	PC84, PG132, PP132, PQ160, TQ144	-6, -7
XC3090A <sup>b</sup>	CB164, PC84, PG175, PP175, PQ160, PQ208, TQ176	-6, -7
XC3020L	PC84	-8
XC3030L	PC84, VQ64, VQ100	-8
XC3042L	PC84, TQ144, VQ100	-8
XC3064L <sup>b</sup>	PC84, TQ144	-8

Device	Packages	Speed Grades
XC3090L <sup>b</sup>	PC84, TQ176	-8
XC3120 <sup>a</sup>	CB100, PC68, PC84, PG84, PQ100	-3, -4, -5
XC3130 <sup>a</sup>	PC44, PC68, PC84, PG84, PQ100, TQ100	-3, -4, -5
XC3142 <sup>a</sup>	CB100, PC84, PG84, PG132, PP132, PQ100, TQ100, TQ144	-3, -4, -5
XC3164 <sup>a b</sup>	PC84, PG132, PP132, PQ160	-3, -4, -5
XC3190 <sup>a b</sup>	CB164, PC84, PG175, PP175, PQ160, PQ208	-3, -4, -5
XC3195 <sup>a b</sup>	CB164, PC84, PG175, PG223, PP175, PQ160, PQ208	-3, -4, -5
XC3120A	CB100, PC68, PC84, PG84, PQ100	-1, -2, -3, -4, -5
XC3130A	PC44, PC68, PC84, PG84, PQ100, VQ64, VQ100	-1, -2, -3, -4, -5
XC3142A	CB100, PC84, PG84, PG132, PP132, PQ100, TQ144, VQ100	-1, -2, -3, -4, -5
XC3164A <sup>b</sup>	PC84, PG132, PP132, PQ160, TQ144	-1, -2, -3, -4, -5
XC3190A <sup>b</sup>	CB164, PC84, PG175, PP175, PQ160, PQ208, TQ176	-1, -2, -3, -4, -5
XC3195A <sup>b</sup>	CB164, PC84, PG175, PG223, PP175, PQ160, PQ208	-1, -2, -3, -4, -5
XC4003	PC84, PG120, PQ100	-4, -5, -6
XC4005 <sup>b</sup>	CB164, PC84, PG156, PQ100, PQ160, PQ208	-3, -4, -5, -6, -6B, -10
XC4006 <sup>b</sup>	PC84, PG156, PQ160, PQ208	-3, -4, -5, -6
XC4008 <sup>b</sup>	MQ208, PC84, PG191, PQ160, PQ208	-3, -4, -5, -6
XC4010 <sup>b</sup>	BG225, CB196, MQ208, PC84, PG191, PQ160, PQ208	-3, -4, -5, -6, -10
XC4013 <sup>b</sup>	BG225, CB228, MQ208, MQ240, PG223, PQ160, PQ208, PQ240	-3, -4, -5, -6, -10
XC4002A	PC84, PG120, PQ100, VQ100	-5, -6
XC4003A	CB100, PC84, PG120, PQ100, VQ100	-4, -5, -6, -10
XC4004A <sup>b</sup>	PC84, PG120, PQ160, TQ144	-5, -6
XC4005A <sup>b</sup>	PC84, PG156, PQ160, PQ208, TQ144	-4, -5, -6
XC4010D <sup>b</sup>	BG225, PC84, PQ160, PQ208	-5, -6
XC4013D <sup>b</sup>	BG225, PQ160, PQ208, PQ240	-5, -6
XC4003H	PG191, PQ208	-5, -6
XC4005H <sup>b</sup>	MQ240, PG223, PQ240	-5, -6
XC5202	PC84, PG156, PQ100, TQ144, VQ100	-5, -6

Device	Packages	Speed Grades
XC5204	PC84, PG156, PQ100, PQ160, TQ144, VQ100	-5, -6
XC5206 <sup>b</sup>	PC84, PG191, PQ100, PQ160, PQ208, TQ144, VQ100	-5, -6
XC5210 <sup>b</sup>	BG225, PC84, PG223, PQ160, PQ208, PQ240, TQ144	-5, -6
XC5215 <sup>b</sup>	HQ304, PG299, PQ208, PQ240	-5, -6
XC7236A <sup>a</sup>	PC44	-16, -20, -25
XC7318 <sup>a</sup>	PC44, PQ44	-5, -7
XC7336 <sup>a</sup>	PC44, PQ44	-5, -7, -10, -12, -15
XC7354 <sup>a</sup>	PC44, PC68	-7, -10, -12, -15
XC7372 <sup>a</sup>	PC68, PC84, PQ100	-7, -10, -12, -15
XC7336Q <sup>a</sup>	PC44, PQ44, VQ44	-10, -12, -15
XC73108 <sup>a</sup>	BG225, PC84, PG144, PQ100, PQ160	-7, -10, -12, -15, -20
XC73144 <sup>a</sup>	BG225, PQ160	-7, -10, -12, -15

a. Not supported in X-BLOX.

b. Not supported in Base packages.





# Xilinx Customer Support Information

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For registration, authorization codes, update information, warranty status, shipping, product issues, and technical support call Monday through Friday, 8 a.m. to 5 p.m. Pacific time.

## Registration, Authorization, and Customer Service

- United States and Canada.....1-800-624-4782
- Europe.....44-1-932-349401
- Japan.....81-33-297-9164
- Southeast Asia/All Other Countries.....852-2410-2739
- Facsimile Transmission.....1-408-559-0115
- International customers may also contact their local sales representative or distributor.

## Technical Support

- Technical Support Hotline
  - United States and Canada.....1-800-255-7778
  - International.....1-408-879-5199
- Technical Support FAX (24 hours/7 days) .....1-408-879-4442
- Technical Support BBS (24 hours/7 days) .....1-408-559-9327
- Internet E-mail Address (24 hours/7 days).....[hotline@xilinx.com](mailto:hotline@xilinx.com)

## **Training**

- Xilinx Training Administrator .....1-408-879-5090
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