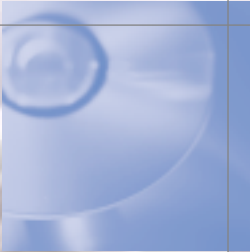




Libero™ v2.3

Integrated Design Environment



- Schematic Capture
- Testbench Generation
- HDL Simulator
- Synthesis
- Place-and-Route Software



Actel Libero™

Integrated Design Environment (IDE)

Thank you for choosing Actel's Libero IDE software. Libero IDE is the most comprehensive and powerful FPGA design and development software available, providing start to finish design flow guidance and support for novice and experienced power users. Libero IDE software supports all Actel Flash and antifuse products, including the popular ProASIC^{ELUS} and Axcelerator products.

Libero IDE provides all necessary design tools to bring your Actel FPGA product to market quickly with the highest possible device performance. By partnering Actel's internally developed tools with industry experts such as Mentor Graphics,[™] Model Technology,[™] Synplicity,[®] and SynaptiCAD[™] products, Libero IDE provides "one stop shopping." This development environment ensures complete tool compatibility and interoperability, a streamlined design flow, management of all design, run, and log files, plus the passing of all design data between tools, from schematic/HDL entry to place-and-route and all the way through device programming. Silicon debug capability is also featured as part of the suite.

Running on PC/Windows operating systems, the Libero IDE software CD-ROM disc provides three basic levels of flexibility and licensing. The Silver edition, a free license product that contains all features except built-in simulation, allows you to work with smaller Actel FPGAs. Libero Gold, containing the same features as Silver plus simulation, enables you to work with small to medium-sized Actel FPGAs. Silver and Gold include a "lite" version of synthesis. The Platinum edition allows you to work with all Actel FPGA device sizes and has the most comprehensive tool offering. See the chart inside for full details.

If you have this Libero IDE software as a result of a software/license purchase from Actel, you must register your software at <http://register.actel.com/RegSerial.asp> to receive the appropriate license.

If you want to evaluate this Libero IDE CD-ROM disc and have not yet purchased an Actel license, you may use this CD-ROM disc with a free Libero Silver license or a free 45 day Platinum evaluation license. You must register your software at <http://register.actel.com/RegSerial.asp> to receive your free license. Having used the Libero IDE software, we hope you will make the decision to purchase a permanent (1 year) license, which is renewable and has other benefits.

Having made your Libero edition and license choice, you are ready to begin your next FPGA design using Actel's high performance FPGA products. Libero IDE and Actel provide you the fastest possible time to market and the best FPGA value.

Actel Libero IDE Software Includes:

- Choice of Silver, Gold, Platinum or Evaluation editions
- Libero Project Manager
- ViewDraw for Actel schematic entry tool
- HDL Editor
- Actel ACTgen macro generator
- WaveFormer Lite testbench generator from Mentor Graphics
- Synplify synthesis from Synplicity
- Model*Sim* HDL simulator from Mentor Graphics
- Actel Designer place-and-route
- Actel static timing and constraints generator
- Actel SmartPower analysis tool
- Actel Silicon Explorer II silicon analysis
- Complete HTML Help
- User's Guides for all tools
- Actel Digital Library (device datasheets, application notes, etc.)
- Adobe Acrobat Reader

Minimum System Requirements*:

- 300MHz Pentium with Windows NT 4.0 or Windows 98/2000 U.S. version
- 128 MB RAM
- FAT32 or NTFS. NTFS File system recommended
- 600 MB available hard disk space
- 5 MB available hard disk space for each VITAL/VHDL device library
- 5 MB available hard disk space for each Verilog family simulation library
- CD-ROM Drive
- HTML Browser
- 800x600 video resolution

* for most Actel devices. Largest gate count devices require up to 1 GB of internal RAM

For more information about **Actel Products**, visit our website at <http://www.actel.com>

Libero™ IDE and Designer Development Software Feature Comparison Table

Designer software is available as a stand-alone product

	Function	Tool	Vendor	Libero IDE				Designer Software		
				Silver	Gold	Platinum	Eval	Gold	Platinum	Eval
Device Support	Maximum 10k Gate Devices*	All Actel FPGAs	Actel	✓	✓	✓	✓	✓	✓	✓
	Maximum 50k Gate Devices*	All Actel FPGAs	Actel		✓	✓	✓	✓	✓	✓
	All Actel Devices	All Actel FPGAs	Actel			✓	✓		✓	✓
Features Provided	Project Manager	Libero IDE	Actel	✓	✓	✓	✓			
	Design Entry (HDL)	Libero IDE	Actel	✓	✓	✓	✓			
	Design Entry (Schematic)	ViewDraw for Actel	Actel	✓	✓	✓	✓			
	Synthesis	Synplify Lite for Actel/ Synplify for Actel	Synplicity	✓	✓	✓	✓			
	Simulation	ModelSim for Actel	Mentor Graphics		✓	✓	✓			
	Test Bench Generator	WaveFormer Lite	SynaptiCAD	✓	✓	✓	✓			
	Static Timing Analysis	Timer	Actel	✓	✓	✓	✓	✓	✓	✓
	Constraints	Timer	Actel	✓	✓	✓	✓	✓	✓	✓
	Auto Macro Generator	ACTgen	Actel	✓	✓	✓	✓	✓	✓	✓
	Place-and-Route	Designer Software	Actel	✓	✓	✓	✓	✓	✓	✓
	Power Analysis	SmartPower	Actel	✓	✓	✓	✓	✓	✓	✓
	Design Schematic View	Netlist Viewer	Actel	✓	✓	✓	✓	✓	✓	✓
	STAPL	Designer Software	Actel	✓	✓	✓		✓	✓	
	Program File	Designer Software	Actel	✓	✓	✓		✓	✓	
	Programming**	Silicon Sculptor II	Actel	✓	✓	✓	✓	✓	✓	✓
	In System Probe**	Silicon Explorer II	Actel	✓	✓	✓	✓	✓	✓	✓
	In System Programming**	Flash Pro	Actel	✓	✓	✓	✓	✓	✓	✓

* or the smallest member of the device family.
** Requires additional hardware sold by Actel.

Libero IDE Software Tools

Libero IDE consists of a powerful suite of FPGA development tools that provide designers with an efficient and comprehensive start to finish methodology from schematic/HDL entry through place-and-route and device programming. The suite provides Actel specific versions of industry standard EDA development tools as well as Actel generated tools that exploit the full functionality and maximize the speed capability of Actel FPGA devices. Additionally, a powerful Project Manager keeps track of your files and guides you through the development process efficiently and easily.

ViewDraw for Actel from Mentor Graphics is used as a schematic entry vehicle, supporting mixed mode entry in which HDL blocks and schematic symbols can be used.

Actel's HDL Editor targets the creation of HDL code, supporting VHDL and Verilog and providing color highlighting of text and other features.

Actel's ACTgen macro generator provides simple generation of myriads of functional macros for implementation with schematic or HDL entry.

Synplify for Actel from Synplicity enables efficient optimization of an HDL design specifically targeted to Actel FPGA devices.

WaveFormer Lite from SynaptiCAD converts graphical stimulus files into HDL test benches. The graphical tool is ideal for designers unfamiliar with creating test benches or for experts wanting to save time.

ModelSim HDL Simulator from Mentor Graphics enables line by line HDL source level verification. Simulation can be performed at all levels: behavioral (pre-synthesis), structural (post synthesis), back-annotated, and dynamic simulation. ModelSim is only supported in Libero Gold, Platinum, or Platinum Evaluation.

Actel Designer software that includes our own place-and-route, static timing analysis, PinEdit and I/O Attribute Editor, ChipEdit, simulation libraries, SmartPower, and Netlist Viewer.

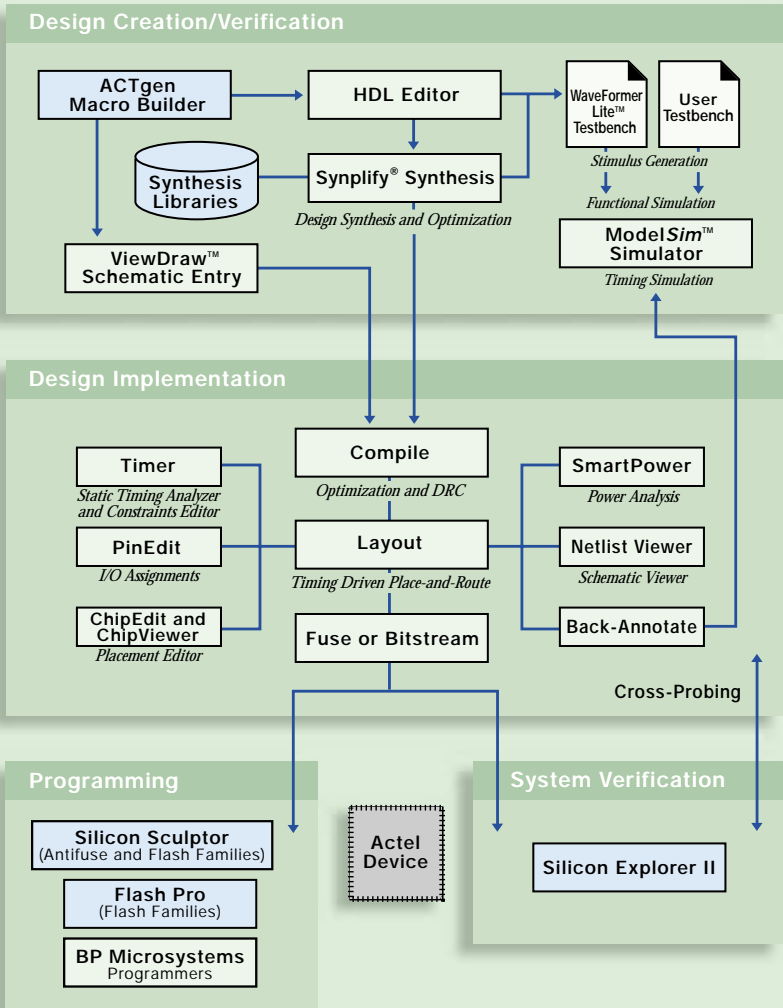
Actel Silicon Sculptor is a robust, compact, single-device programmer designed to allow concurrent programming of multiple units from a PC. Additional hardware is required and may be purchased separately.

Actel Silicon Explorer II design verification software for Actel's antifuse FPGAs. Internal probe circuitry within the FPGA is accessed by Silicon Explorer II software. This allows a PC to fully emulate a functional logic analyzer.

For information regarding Actel Libero Integrated Design Environment, please go to <http://www.actel.com/products/tools/sw.html>

Actel Libero IDE Design Flow

Libero Project Manager



If you have a previous version of Libero IDE installed on your PC, you should completely uninstall it.

Install this CD-ROM disc into your PC CD-ROM drive. Actel's Libero IDE setup will become visible. Select "Install Libero IDE v2.3." You will come back to this screen later to install Synplify, WaveFormer Lite, or various Libero documents.

The next screen will prompt you to select one of the various Libero IDE Editions, i.e. Silver, Gold, Platinum, or Platinum Eval. You must also select your HDL, either VHDL or Verilog.



From that point, follow the remaining installation instructions. In order to utilize your Libero IDE, you must register your software at <http://register.actel.com/RegSerial.asp>. You may also request a free Silver or free 45 day Platinum Evaluation license at this site if you have not previously purchased a Gold or Platinum 1 year license.

For additional installation instructions please consult the **Actel Installation Guide** included on this CD-ROM disc.

License Information for Libero IDE

Product (See Silver/Gold/Platinum descriptions on inside page)	Actel Product Code	Device Gates
Libero-Silver_PC-1-Year. This license for Windows-based PCs is a node-locked free 1 year license that can be renewed yearly.	LIB-SIL-PC-N-1YR	10k or less, and the smallest member of any device family
Libero-Gold-PC-1-Year. This license for Windows-based PCs is a node-locked 1 year license that is available for purchase.	LIB-G-PC-N-1YR	50k or less
Libero-Platinum-PC-1-Year. This license for Windows-based PCs is a node-locked 1 year license that is available for purchase. Two hardware keys from Actel and Synplcity are included in the kit.	LIB-PL-PC-N-1YR	All devices
Libero-Platinum-Evaluation-PC. This license for Windows-based PCs is a node-locked free 45 day license. It does not include programming file generation capability.	LIB-PL-E-PC-N	All devices
Libero-Gold-to-Platinum Upgrade. This 1 year license allows customers to upgrade from Gold to Platinum.	LIB-GTP-PC-N-1YR	All devices
Libero-Gold- PC 1 Year Renewal.	LIB-G-R-PC-N1YR	50k or less
Libero-Platinum PC 1 Year Renewal.	LIB-PL-R-PC-N-1YR	All devices
Libero-Platinum-Archive-PC-N. This license allows customers to have a permanent license for Libero Platinum. It is tied to a specific version of software. Contact Actel for details.	LIB-PL-A-PC-N	



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For more information about **Actel Libero Integrated Design Environment**, call **1.888.99.ACTEL** or visit our website at <http://www.actel.com>



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