6.

FlashPro

- Overview
- Hardware
- Software
- Documents
- Parametric Search
- Ordering
- Support

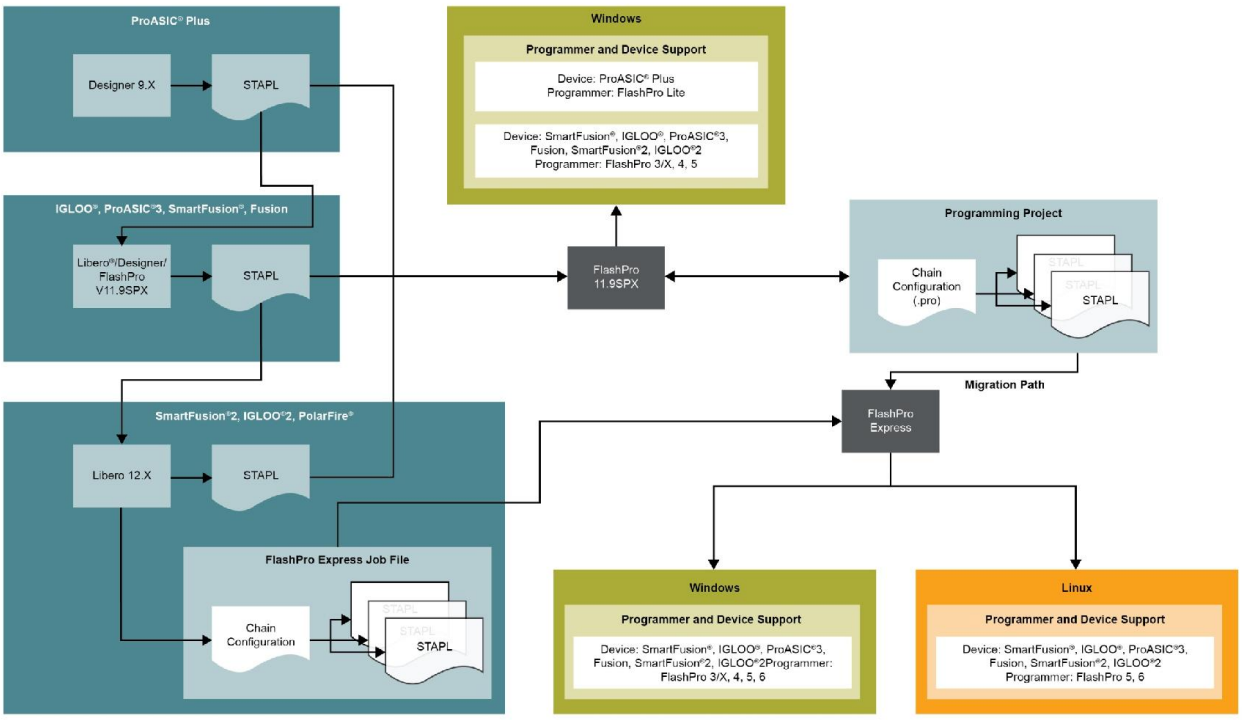
The Microsemi FlashPro programming system is a combination of Microsemi's FlashPro software and hardware programmers. Together they provide in-system programming (ISP) for all FPGAs in the PolarFire, IGLOO2, SmartFusion2, RTG4, IGLOO® Series and ProASIC3 Series (including RT ProASIC3), and the SmartFusion, Fusion, ProASIC^{PLUS}, and Legacy & Discontinued Flash FPGA families.

Starting with Libero SoC v12.0, The FlashPro programming software will no longer be included in the Libero design software nor will it be available in stand-alone mode. Microsemi will be supporting the FlashPro Express v12.0 programming software, which replaces the FlashPro programming software. The last versions of Libero that supports FlashPro are Libero SoC v11.9 and Libero SoC PolarFire v2.3.

Microsemi Flash Programming System

Software	Description	Hardware	Description
FlashPro Express	Software for Windows and Linux platforms, supporting all hardware programmers. This tool is simplified to provide ease of use for operators in a production programming environment	FlashPro6	Hardware programmer supports PolarFire, RTG4, SmartFusion2/IGLOO2 devices for Windows and Linux platforms
FlashPro	Software for Windows platform, supporting all hardware programmers. Discontinued from Libero SoC v12.0	FlashPro5	Hardware programmer supports all SoC FPGA and FPGA devices on Windows (except ProASICPlus), and PolarFire, RTG4, SmartFusion2/IGLOO2 devices are also supported on Linux
		FlashPro4	Hardware programmer supporting all SoC and FPGA devices except ProASICPlus for Windows platform
		FlashPro Lite	Hardware programmer supporting ProASICPLUS for Windows platform

Whether you are programming a board containing a single device or multiple devices connected in a chain, you can quickly program and reprogram Microsemi flash FPGAs by connecting to a PC and the target board. FlashPro programmers provide everything you need to program flash FPGAs for compliance with IEEE 1149, using the JTAG port.



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FlashPro Programmer

FlashPro series of hardware programmers save you board space because a single JTAG chain can be used for all JTAG devices. In-system programming using the JTAG port adds the flexibility of field upgrades or post-assembly production-line characterization. Production costs are significantly reduced as a result of the elimination of expensive sockets on the board.

The FlashPro series of programmers can also be used for interactive debugging of designs using embedded IP in the flash FPGAs in conjunction with SmartDebug or Synopsys ® Identify Microsemi Edition software. Visit the SmartDebug webpage for feature details and more information.

Key Features

- Supports in-system programming
- Supports IEEE 1149 JTAG programming through STAPL
- Supports USB 2.0/3.0 available

Features comparison of Hardware Programmers

Feature	FlashPro6[1]	FlashPro5[2]	FlashPro4[3]	FlashProLite
FlashPro Software	Windows only	Windows only	Windows only	Windows only
FlashPro Express Software	Windows and Linux	Windows and Linux	Windows only	Not Supported
Supported Devices	PolarFire, SmartFusion2, IGLOO2, RTG4	PolarFire, SmartFusion2, IGLOO2, RTG4 SmartFusion, IGLOO, ProASIC3, Fusion RT ProASIC3	PolarFire, SmartFusion2, IGLOO2, RTG4 SmartFusion, IGLOO, ProASIC3, Fusion RT ProASIC3	ProASICPLUS
JTAG Programming	✓	✓	✓	✓
SmartDebug Support	✓	✓	✓	
Synopsys Identify Support	✓	✓	✓	
Soft Console Support	TBD	Available with SoftConsole v4.0 and later releases	✓	
USB3.0(super speed)	✓			
USB 2.0 (high speed)	✓	✓	✓	
USB 1.1	✓	✓	✓	
Parallel Port				✓

Notes:

1. Libero SoC v12.2 / FlashPro v12.2 / SmartDebug v12.2 software or later versions are required to use FlashPro6

2. Libero SoC v11.4/Libero SoC PolarFire v1.1/ FlashPro v11.4 software or later versions are required to use FlashPro5.
3. Libero IDE v8.6 SP1 or FlashPro v8.6 SP1 software or later versions are required to use FlashPro4.
4. FlashPro Express does not support FlashProLite
5. FlashPro and FlashProExpress software support our earlier discontinued hardware programmer FlashPro3 also. *For more information, read the product discontinuation notification.*
6. FloashPro software is discontinued after 11.9SPx

FlashPro6

FlashPro6 is the newest programmer, which along with Windows, supports Linux platforms, in conjunction with LiberoSoC, FlashPro Express, and SmartDebug software. It supports all FPGA devices in PolarFire, SmartFusion2, IGLOO2 and RTG4, series. This is completely backward-compatible and complies with the requirements specified in EMC Directive 2004/108/IEC and RoHS Directive 2011/65/EU. The minimum version requirements to run FlashPro6, on Windows and Linux, are Libero SoC, FlashPro Express and SmartDebug version 12.2 or later.

NOTE: FlashPro6 can be updated in the field to allow enhancements in programming speed. Please check back on this page for future updates

FlashPro6 updates for Libero / FlashPro Express v12.3 or later:

- *This update is required to enable SPI-Slave programming. Please review the readme file before the update.*
  - Windows: FlashPro6 Update v12.3 Windows
  - Linux: FlashPro6 Update v12.3 Linux

FlashPro5

FlashPro5 is the programmer, which along with Windows, supports Linux platforms also such as RedHat Enterprise Linux 6 and CentOS 6, in conjunction with FlashPro Express software. It supports all FPGA devices in PolarFire, SmartFusion2, IGLOO2, RTG4, SmartFusion, Fusion, IGLOO, ProASIC3 and RT ProASIC3 series. This is completely backward-compatible and complies with the requirements specified in EMC Directive 2004/108/IEC and RoHS Directive 2011/65/EU.The minimum version requirements to run FlashPro5, on Windows and Linux, are Libero SoC, Libero SoC PolarFire v1.1 or FlashPro v11.4.

FlashPro4

FlashPro4 is a programmer supporting all FPGAs in the PolarFire, SmartFusion2, IGLOO2, RTG4, IGLOO, ProASIC3, (including RT ProASIC3), SmartFusion and Fusion families. FlashPro4 offers extremely high performance through the use of USB 2.0 and is high-speed compliant for full use of the 480 Mbps bandwidth. Powered exclusively via USB, FlashPro4 provides a VPUMP voltage of 3.3 V for programming these devices. For IGLOO nano FPGAs, programming at 1.2V Core Voltage is supported.

For SmartFusion designs, FlashPro4 hardware supports device programming for both the FPGA Libero IDE-generated hardware design as well as software design coming from Microsemi's SoftConsole embedded software design and debug.

FlashPro4 connects to any PC with a USB port and operates with USB 1.1 (full-speed) or USB 2.0 (both high-speed and full-speed modes). Multiple FlashPro4 programmers can be connected to a single PC using USB hubs, enabling the end user to set up a small-scale production environment with concurrent ISP occurring across multiple boards and the FlashPro software.

FlashPro4 replaces FlashPro3 and FlashPro3X and is completely backward-compatible, supporting additional features such as lower cost, smaller form factor and the latest flash FPGA

families. **Libero IDE v8.6 SP1 or FlashPro v8.6 SP1 is the minimum software and version required to use FlashPro4**.

FlashPro Lite

FlashPro Lite is used exclusively with the ProASIC^{PLUS} family. FlashPro Lite provides all required programming voltages. The programming connection to the target board is a 26-pin SAMTEC micro header on the target board. A replaceable programming cable is connected to the FlashPro Lite. FlashPro Lite is conveniently powered by the target board.

If the PC/Laptop does not have a parallel port a PCMCIA to parallel port converter can be used as an alternative.

To program the ProASIC^{PLUS} device via USB, QuickFlash Programmer can be used as an alternative. Microsemi has tested the functionality of the QuickFlash Programmer. However, Microsemi is not responsible for programming or functional failures resulting from the usage of this third party programmer.

FlashPro Hardware Programmer

Operating Systems	FlashPro5	FlashPro4[1,3]	FlashPro Lite[1,4]
Linux			
RHEL 7 64-bit	✓		
CentOS 7 64-bit	✓		
RHEL 6 64-bit	✓		
CentOS 6 64-bit	✓		
Microsoft Windows			
Windows 10 64 bit	✓	✓	
Windows 8.1 64 bit	✓	✓	
Windows 7 Professional	✓	✓	✓

Notes:

1. *Both x86 32-bit and x64 operating systems are supported for USB.*
2. *x86 32-bit operating systems only.*
3. *FlashPro3 was discontinued in 2009 and replaced with FlashPro4. For more information, read the product discontinuation notification.*
4. *FlashPro Lite supports only the ProASIC^{PLUS} family.*

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Programming & Debug Tools are installed automatically with Libero SoC.

It is also available for standalone download for convenience if needed for production programming and lab use.

Programming and Debug Tools now include the following software.

- FlashPro programming software for Windows only
- FlashPro Express programming software for Windows and Linux
- SmartDebug device debug tool for PolarFire, SmartFusion2, IGLOO2, and RTG4
- Job Manager for Secured Production Programming Solution

Always download the latest version of the software available

Download Most Recent Release

Service Packs (SP) are incremental updates and must be installed on top of the base release. The most recent SP will include all updates from previous Service Packs.

Note: You do not need to install Program and Debug tools if you have already installed, or plan to install, Libero software. Program and Debug tools are included with Libero software installation.

Programming and Debug v12.3 (Does not includes FlashPro) (12/10/19)

- Programming and Debug v12.3 Release Notes
- Download Programming and Debug v12.3 for Windows
- Download Programming and Debug v12.3 for Linux

Programming and Debug v12.2 (Does not includes FlashPro) (09/24/19)

- Programming and Debug v12.2 Release Notes
- Download Programming and Debug v12.2 for Windows
- Download Programming and Debug v12.2 for Linux

Programming and Debug v11.9 SP4 (Includes FlashPro v11.9) (06/11/19)

- Programming and Debug v11.9 SP4 Release Notes
- Download Programming and Debug v11.9 SP4 for Windows

- Download Programming and Debug v11.9 SP4 for Linux

Note: Microsemi had not released Programming & Debug v11.9 service packs prior to SP4. This Service Pack 4 must be installed on top of Programming & Debug v11.9.

Programming and Debug v12.1 (Does not includes FlashPro) (04/18/19)

- Programming and Debug v12.1 Release Notes
- Download Programming and Debug v12.1 for Windows
- Download Programming and Debug v12.1 for Linux

Programming and Debug v12.0 (Does not includes FlashPro) (01/23/19)

- Programming and Debug v12.0 Release Notes
- Download Programming and Debug v12.0 for Windows
- Download Programming and Debug v12.0 for Linux

Programming and Debug PolarFire v2.3 (Includes FlashPro v2.3) (09/17/18)

- Programming and Debug PolarFire v2.3 Release Notes
- Download Programming and Debug PolarFire v2.3 for Windows
- Download Programming and Debug PolarFire v2.3 for Linux

Programming and Debug v11.9 (Includes FlashPro v11.9) (08/17/18)

- Programming and Debug v11.9 Release Notes
- Download Programming and Debug v11.9 for Windows
- Download Programming and Debug v11.9 for Linux

Archives

Version Release History

Installation Notes

1. To install the software, you must have administrator privileges.
2. You should install FlashPro v11.4 software in a new folder, separate from Libero or other versions of FlashPro.
3. Program and Debug Software Installation Instructions
4. Program and Debug Software Installation for Linux

Flash Programming Support for Libero Software

Libero SoC Version	FPGA Families	Supported FlashPro versions	Supported FlashPro Express versions
Libero SoC v11.9 or earlier	Fusion, SmartFusion, ProASIC3, IGLOO, RT ProASIC3	FlashPro v11.9 or earlier	Not Supported
	SmartFusion2, IGLOO2 and RTG4		FlashPro Express v11.5 to v11.9
Libero SoC PolarFire v2.3 or earlier	PolarFire	FlashPro PolarFire v2.3 or earlier	FlashPro Express PolarFire and later
Libero SoC v12.0	PolarFire, SmartFusion2, IGLOO2 and RTG4	There is a workaround to use FlashPro v11.9 and FlashPro PolarFirev2.3 versions. Refer the notes* below for more details.	FlashPro Express v12.0

***Notes:** Libero SoC design suite v12.0 generates STAPL and JOB files. The users working with Libero SoC v12.0 and would like to work on FlashPro standalone programming software using STAPL file, they can export a STAPL file generated by Libero SoC design suite v12.0 and program the FPGA using standalone versions of FlashPro v11.9 or FlashPro PolarFire v2.3 releases.

Important Points:

1. FlashPro Express does not support Fusion, SmartFusion, ProASIC3, IGLOO FPGA devices
2. Libero SoC v12.0 or later releases does not support Fusion, SmartFusion, IGLOO and ProASIC3 FPGA devices
3. FlashPro v11.9 and FlashPro PolarFire v2.3 are standalone support for Libero SoC v12.0

FlashPro Programming Software

Operating Systems	FlashPro	FlashPro Express	SmartDebug	Job Manager
Linux				
RHEL 6 64-bit	✓	✓	✓	
CentOS 6 64-bit	✓	✓	✓	

Microsoft Windows				
Windows 8 64 bit	✓	✓	✓	✓
Windows 7 Professional	✓	✓	✓	✓

Notes: *Windows XP is no longer supported.*

Minimum System Requirements

Software/Platform	Disk Space	System	License Required
FlashPro Standalone	500 MB	64 bit, Windows 7 and Newer	No

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FlashPro User's Guides

FlashPro6 Device Programmer Quickstart Card	12/2019
FlashPro Express v12.0 User Guide	1/2019
FlashPro5 Device Programmer Quickstart Card	7/2014
FlashPro4 Device Programmer Quickstart Card	8/2018
FlashPro for Libero SoC v11.8 User's Guide	3/2017
FlashPro for Software v11.7 Users Guide	1/2017
FlashPro Express for Libero SoC v11.8 User's Guide	3/2017
FlashPro Express for Software v11.7 Users Guide	1/2017
FlashPro Software and Hardware Installation Guide	9/2015
FlashPro Lite Device Programmer Quickstart Card	2/2013

Programming User Guides

UG0714: PolarFire FPGA Programming User Guide	05/2019
UG0451: SmartFusion2 and IGLOO2 Programming User Guide	05/2019
UG0602: RTG4 FPGA Programming User Guide	05/2019

Application Notes

AC316: High-Volume Flash Programming Guide App Note	1/2008
AC386: In-System Programming (ISP) of Microsemi's Low Power Flash Devices Using FlashPro4/3/3X App Note	2/2014
HB: Programming Flash Devices *(v1.3)*	12/2011

Application Briefs

AC351: PCMCIA Adapter for Parallel Port Programming App Brief	4/2014

AC357: FlashPro4 Backward Compatibility with FlashPro3 App Brief	10/2012

EU Declaration of Conformity for FlashPro

EU Declaration of Conformity for FlashPro5	10/2014

Procedures

Self-test Procedure for the FlashPro Programmer Using the Diagnostic Tool	10/2005

Customer Notifications

CN 1216: FlashPro4 Replacement Recommended Due to Update Message on Limited Number of Units	11/2012
FlashPro5 Statement of Volatility	7/2019

Archives

EU Declaration of Conformity for FlashPro4 - English	12/2012
EU Declarations of Conformity for FlashPro4 - Non-English EU Languages (24)	12/2012
FlashPro4 Statement of Volatility	7/2019
FlashPro4 Device Programmer Quickstart Card	4/2011
FlashPro for Software v11.3 User's Guide	3/2014
FlashPro3 Device Programmer Quickstart Card	11/2009
FlashPro v9.1 User's Guide	1/2011
FlashPro v9.1 Online Help	1/2011

There are no matching parts in this category

Parts
Total: 0
Matching: 0

Part Status	Package Type	Package Carrier

This category has no Parametric Data! please try other Categories

FLASHPRO LITE

Flashpro Device Programmers Provides In System Programming In An Easy To Use

Distributor	SKU	Stock	MOQ	Pkg	
Digi-Key	1100-1139-ND	9	1	Bulk	Buy Now

FLASHPRO4

SmartFusion2/IGLOO2/RTG4/SmartFusion/IGLOO/ProASIC3/Fusion/RT ProASIC3 FPGA USB Interface Programmer

Distributor	SKU	Stock	MOQ	Pkg	
Arrow Electronics	FLASHPRO4	12	1	..	Buy Now
Digi-Key	1100-1140-ND	141	1	Bulk	Buy

Distributor	SKU	Stock	MOQ	Pkg	
					Now
Future Electronics	FLASHPRO4-KIT	1	1	Kit	Buy Now
Future Electronics	FLASHPRO4-KIT	1	1	Kit	Buy Now

FLASHPRO5
Hardware Programmer Soc/fpga

Distributor	SKU	Stock	MOQ	Pkg	
Arrow Electronics	FLASHPRO5	1	1	..	Buy Now
Digi-Key	1100-1179-ND	311	1	Bulk	Buy Now
Future Electronics	FLASHPRO5-KIT	1	1	Kit	Buy Now
Future Electronics	FLASHPRO5-KIT	1	1	Kit	Buy Now

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FPGA & SoC

- FPGA & SoC Design Tools
  - FPGA Design Tools
  - SoC Design Tools
  - Debug
  - DSP Design Tools
  - Design Resources
  - Programming
    - Secure Production Programming
    - Silicon Sculptor
    - Embedded Programming
    - Silicon Sculptor Adapter Modules
    - FlashPro

- FPGAs
- SoC FPGAs
- Rad-Tolerant FPGAs
- Antifuse FPGAs
- FPGA Applications
- Mi-V RISC-V Ecosystem
- Boards and Kits
- Key Technologies & Solutions
- FPGA & SoC Partners
- Low Power Leadership
- Smart Embedded Vision