

Intel Development Tools

The Quartus Prime software provides everything developers need to design for Intel FPGAs and SoCs from design entry and synthesis to optimization, verification, and simulation.

Quartus Prime is recommended for all Trenz Electronics products that are based on Intel FPGAs.

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Intel Software - Product Update Release Notes and Known Issues

Version	Quartus Pro	Quartus Standard	Quartus Lite	Nios II EDS	SoC EDS
22.x	Quartus Prime Pro 22.x	Quartus Prime Standard 22.x	Quartus Prime Lite 22.x	Nios II EDS	--
21.x	Quartus Prime Pro 21.x	Quartus Prime Standard 21.x	Quartus Prime Lite 21.x	Nios II EDS	SoC EDS Standard 21.x / SoC EDS Pro 21.x
20.x	Quartus Prime Pro 20.x	Quartus Prime Standard 20.x	Quartus Prime Lite 20.x	Nios II EDS	SoC EDS Standard 20.x / SoC EDS Pro 20.x
19.x	Quartus Prime Pro 19.x	Quartus Prime Standard 19.x	Quartus Prime Lite 19.x	Nios II EDS	SoC EDS Standard 19.x / SoC EDS Pro 19.x
18.x	Quartus Prime Pro 18.x	Quartus Prime Standard 18.x	Quartus Prime Lite 18.x	Nios II EDS	SoC EDS Standard 18.x / SoC EDS Pro 18.x

Intel Devices - Erratas and Troubleshooting

Device	Intel Link
Intel MAX 10	MAX 10 Errata and Troubleshooting
Intel Cyclone V	Cyclone V Errata and Troubleshooting
Intel Cyclone 10 LP	Cyclone 10 LP Errata and Troubleshooting
Intel Cyclone 10 GX	Cyclone 10 GX Errata and Troubleshooting
Intel Agilex 5	Agilex Errata and Troubleshooting
Intel Agilex 7	Agilex Errata and Troubleshooting
Intel Arria V	Arria V Errata and Troubleshooting
Intel Arria 10	Arria 10 Errata and Troubleshooting

Intel Stratix V	Stratix V Errata and Troubleshooting
Intel Stratix 10	Stratix 10 Errata and Troubleshooting

Intel FPGA Wiki

<https://community.intel.com/t5/FPGA-Wiki/tkb-p/fpga-wiki>

Intel FPGA Support Forum

<https://community.intel.com/t5/FPGA/ct-p/fpga>

Intel User Guides

Intel Software Programming and Debugging

Name	DOC ID Quartus Pro/Standard Edition	Description
Intel Quartus Prime Pro /Standard Edition User Guide: Programmer	UG-20134/UG-20178	Describes operation of the Intel® Quartus® Prime Pro Edition Programmer, which allows you to configure Intel® FPGA devices, and program CPLD and configuration devices, via connection with an Intel® FPGA download cable.
Generic Flash Programmer User Guide: Intel Quartus Prime Pro/Standard Edition	UG-20227/UG-20235	This document describes how to use the Generic Flash Programmer. You can use the Generic Flash Programmer to load an FPGA configuration bitstream file into a Quad SPI flash memory device.
Intel Quartus Prime Pro /Standard Edition User Guide: Debug Tools	UG-20139/UG-20182	The Intel® Quartus® Prime software provides a portfolio of system debugging tools for real-time verification of your design. This document describes the tools and how to use them.

Excerpt of Intel User Guides

Category	Name	DOC ID	Description
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Dev-Guide Quartus Pro Edition	Intel Quartus Prime Pro Edition User Guide: Getting Started	UG-20129	<p>This user guide describes basic concepts and operation of the Intel® Quartus® Prime Pro Edition design software, including GUI and project structure basics, initial design planning, use of Intel FPGA IP, and migration to Intel® Quartus® Prime Pro Edition. This software provides a complete design environment for the most advanced FPGA and SoC designs for</p> <ul style="list-style-type: none"> • Intel® Agilex™ • Intel® Stratix® 10 • Intel® Arria® 10 • Intel® Cyclone® 10 GX
Dev-Guide Quartus Standard Edition	Intel Quartus Prime Standard Edition User Guide: Getting Started	UG-20173	<p>This user guide describes basic concepts and operation of the Intel® Quartus® Prime Standard Edition design software, including GUI and project structure basics, initial design planning, use of Intel FPGA IP, and migration to Intel® Quartus® Prime Pro Edition. The Intel® Quartus® Prime Standard Edition software provides a complete design environment for the following device families:</p> <ul style="list-style-type: none"> • Intel® Arria® 10, Arria® V, and Arria® II • Intel® Cyclone® 10 LP, Cyclone IV, and Cyclone V • MAX® series
Dev-Guide Quartus Pro/Standard Edition	Intel Quartus Prime Pro/Standard Edition User Guide: Platform Designer	UG-20130/UG-20174	<p>The Intel® Quartus® Prime software includes the Platform Designer system integration tool. Platform Designer simplifies the task of defining and integrating custom IP components (IP cores) into your FPGA design.</p>

Dev-Guide	Embedded Peripherals IP User Guide	UG-01085	This user guide describes the IP cores provided by Intel® Quartus® Prime design software. The IP cores are optimized for Intel® FPGA devices and can be easily implemented to reduce design and test time. You can use the IP parameter editor from Platform Designer to add the IP cores to your system, configure the cores, and specify their connectivity.
Dev-Guide	Embedded Design Handbook	EDH	The Embedded Design Handbook complements the primary documentation for the Intel tools for embedded system development. It describes how to most effectively use the tools, and recommends design styles and practices for developing, debugging, and optimizing embedded systems using Intel-provided tools.
Dev-Guide Nios II	Nios II Processor Reference Guide	NII-PRG	This handbook describes the Nios® II processor from a high-level conceptual description to the low-level details of implementation. The chapters in this handbook describe the Nios® II processor architecture, the programming model, and the instruction set.
Dev-Guide Nios II	Nios II Software Developer's Handbook	NII-SDH	This handbook describes the basic information needed to develop embedded software for the Intel FPGA® Nios II processor. The Intel FPGA Nios II processor contains new features added after the Intel Quartus Prime 14.0 version. The chapters in this handbook describes the Nios II software development environment, the Nios II Embedded Design Suite (EDS) tools that are available to you, and the process for developing software.

Dev-Guide Nios II	Generic Nios II Booting Methods User Guide	UG-20001	<p>This document describes:</p> <ul style="list-style-type: none"> • The Nios II processor boot copier that boots your Nios II system according to the boot memory selection • Nios II processor booting options and general flow • Nios II programming solutions for selected boot memory
Dev-Guide Nios V	Nios® V Processor Reference Manual	683632	Provides information about the Nios® V processor performance benchmarks, processor architecture, the programming model, and the core implementation.
Dev-Guide Nios V	Nios® V Embedded Processor Design Handbook	726952	The handbook describes how to most effectively use the tools, and recommends design styles and practices for developing, debugging, and optimizing embedded systems using the Nios® V processor and Intel-provided tools.
Dev-Guide Nios V	Nios® V Processor Software Developer Handbook	743810	The handbook describes the Nios® V processor software development environment, the tools that are available, and the process to build software to run on Nios® V processor.
Dev-Guide CycloneV	Cyclone V Hard Processor System Technical Reference Manual	cv_5v4	Technical reference manual for Cyclone 5 HPS

Additional documentation

Additional documentation can be found on the Intel website:

- [Intel® Quartus® Prime Design Software - Support Center](#)
- [Embedded Software Developer Center](#)
- [Intel® FPGA Device Support Resources](#)
- [FPGA Documentation Index](#)