



## PROGRAMMER FEATURES

- **High-Speed ISP Production:** The SuperPro IS416N is a high-speed ISP production programmer built with industrial-grade quality, making it the ultimate choice for integrating ISP sub-systems.
- **Comprehensive Serial Chip Support:** Supports nearly all serial chips, including SPI, I2C, JTAG, BDM, UART, MON, SCI, SWD, SBW, C2D, ICC, SWIM, SDQ, DBG, ICE, CSI, LIN, and more. Programs up to 16 serial chips or 4 parallel NAND, NOR, and eMMC chips simultaneously.
- **Versatile Multi-Chip Programming:** Allows ISP serial programming for multiple chips of different models or types within a single unit.
- **Advanced Control Ports:** General control ports provide signal isolation, relay isolation, power supply control, click detection, LED expansion display, and other control signals.
- **Adjustable High-Speed Programming:** High-speed programming with adjustable speed to meet board load requirements or ISP cable lengths.
- **Three Operating Modes:**
  - 1.) **Online Mode:** Connects to a local PC via USB 2.0 (high speed).
  - 2.) **Off-line Mode:** Operates independently with a stand-alone keyboard, LCD display, and SD cards. The project file size is limited only by the SD card memory size, allowing for flexible production and field setup.
  - 3.) **Network Mode:** Connects to a local network for local or remote control.
- **Advanced Pin-Driver Technology:** Provides cleaner signals, a wider voltage range, and accurate/higher clock frequency. Precise time generators ensure high-speed programming for devices with 1.2V-5.0V Vcc, enhancing product quality.

## Overview

The SuperPro IS416N is a universal ISP Gang programmer designed to support devices with nearly all serial protocols. It can program up to 16 serial devices simultaneously and up to 4 parallel devices like eMMC, NAND, and NOR FLASH in-system at the same time. Features include USB 2.0 or network remote operation and stand-alone modes. For seamless integration with ICT, FCT, ATE, and testing fixtures, DLL/API/Command-Line Commands are available under license.

## Advantages

- **Ultra-Fast Programming Speed:** The SuperPro IS416N is designed with high programming speed in mind. Our semiconductor manufacturer-approved algorithms, precision, and clean signals ensure a high programming yield. Special design features eliminate overshoot and ground bounce. Algorithms are executed using state machine architecture constructed with FPGA, achieving ultra-high programming speed.
- **Up to 16 PCB Gang Programming:** The SuperPro IS416N supports almost all serial devices, including MCUs, serial FLASH/EEPROMs, and most parallel memory devices such as eMMC and NAND/NOR FLASH. It features a 96-pin driver programmer with 16 channels (6 I/O x 16 channels), allowing the simultaneous programming of 16 ISP devices or four parallel high pin count chips like NAND/eMMC.
- **Expansion Capability:** Up to 12 programmers can be connected to a single PC for programming multiple PCBs, or all programmers can be used in stand-alone mode.
- **Mass Production Mode:** The SuperPro IS416N includes a "mass production" mode that starts functional operations automatically once the programmer detects the target board is ready and receives an ISP signal, eliminating the need for keyboard operation. TPIN and TPOUT in the ISP port facilitate this feature.
- **Longer Cable Length with Adjustable Speed:** For industrial applications, the SuperPro IS416N overcomes the distance limitations of parallel programmers. It supports ISP cable lengths up to 3 feet (1 meter) and allows operating speed adjustments for precise execution timing. VDD (0-5.5V /0.5A) and Vpp (0-15V / 0.2A) lines are provided to power the target board and devices.
- **Technical Support:** Xeltek offers same-day support for technical and sales inquiries. Our highly qualified support team is dedicated to providing prompt and effective assistance, ensuring quick resolution of issues and fulfilling customer requests.

## SuperPro IS01 comes with

- 4 ISP Cables
- USB Cable
- AC Adapter
- SD Card for stand-alone operation

## Specifications

ISP Protocol Supported	all common ISP protocol (i.e. I2C, SPI, UART, BDM, MW, JTAG, CAN, RS232). Contact Xeltek for more details.	
PC Interface	USB2.0 (high speed), LAN (100M)	
PC Compatibility	Windows 11 (32/64 bit)	
Power Supply	DC 12V /1.5A. Power adapter	
Dimensions	Main unit: 184 x 160 x 78 (mm)	Package: 310 x 250 x 145 (mm)
Weight	Main unit: Weight: 0.8Kg	Package: 1.65Kg





## Advanced Software Features

SuperPro IS416N comes with a powerful and easy to use programming software. The biggest advantage is its simplicity so that any operator can operate the programmer with little or no training. SuperPro IS416N software is supported on Windows 11 32/64Bits.



**Project Files** The project file stores preparations before programming. Users could also restore and save work environment. The project file includes device type, buffer data, operation option settings, configuration bit settings and batch commands. Project files may be password protected to increase security and reliability when operated by untrained operators.



**Project Group: Operate Multiple Project Files in Batch Mode:** Multiple chips could be programmed simultaneously using the Project Group feature on the SuperPro IS416 software. Project Group organizes batch running of multiple projects and is available on all SuperPro ISP models



**Production Statistics** A log file could be used to save operation information before exiting the program. Log files can also be used to facilitate quality tracking.



**Super Scale Project Group** Complicated PCBA or multiple combined PCBAs may need multiple programmers to work properly. The Super Scale Project Group is responsible for the workflow across multiple programmers.



**XPlayer** SuperPro IS416 supports JAM, SVF and Staple files from ACTEL, Xilinx and ALTERA. SuperPro IS416 also supports Direct C files from ACTEL. STP or JAM files can be generated using design tools such as ISE and Quartus II.



**Auto Recognition of File Types** We support almost all kinds of known file formats including file formats with automatic recognition functions: Binary, Intel (linear & segmented) Hex, Motorola S, Tektronix (linear & segmented), JEDEC, POF, etc.



**Auto Function** The Auto function organizes different functions into a sequential group (erase, blank check, program, verify and protect). Functions are executed in sequential order similar to a batch command.



**Factory Mode** This mode is designed for factory volume production. To prevent operation errors from destroying chips and wrong date written to the chip, SuperPro will operate in Auto function mode. The administrator can set a password to prevent unauthorized access to the system.



**Auto Increment of Serial Numbers** Auto-generation of electronic serial numbers is available on Superpro IS416. This feature is implemented by setting Auto Increment in Operation Option. Auto Increment allows users to add unique serial number into the device. After each successful programming, the software automatically changes the value by the specified increment mode. Barcode Management is also available to fulfill all setup tasks by scanning barcode on the job sheet.



**Copyright Protection** with SD encryption, project file encryption and access control, volume control and remote control.