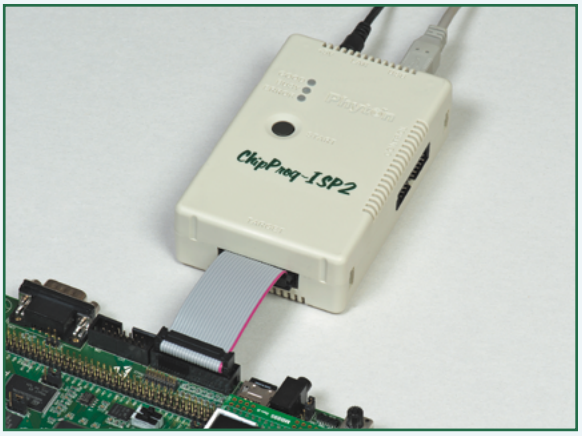
Phyton™

# CPI2-B1 production device programmers

Phyton CPI2-B1 single-channel in-system device programmer is a member of ChipProg-ISP2 family. It is designed to program multi-board panels and complex boards with multiple programmable devices of different types mounted on them. CPI2-B1 is designed to be used in test and programming fixtures, in-circuit testers (ICT), and automated handlers. CPI2-B1 can also be used for development and field service in a stand-alone mode. CPI2-B1 currently supports about 30000 types of in-system programmable microcontrollers, flash memory, and programmable logical devices.






## Features Overview

*(Features are subject to change without notice)*

- Programs devices with Vcc from 1.2V to 5.5V.
- Supports JTAG, SWD, SPI, SCI, I²C, UART, and other interfaces.
- Extremely fast.
- Can program some devices at a distance of up to 5m (~15ft).
- Up to 72x CPI2-B1 units can be controlled by a single computer.
- Each ganged CPI2-B1 unit works independently.
- USB 2.0 High Speed and LAN 100 Mbit/s communication interfaces.
- Optically isolated RS-232 interface (optional).
- ATE interface for standalone operations.
- Embedded SD card enables standalone operation.
- SD cards stores up to 64 standalone projects.
- Friendly intuitive graphical user interface (GUI).
- Simplified graphical user interface for use by unskilled personnel.
- Application Control Interface (ACI) provided by a DLL.
- ACI enables control from programs in Visual Basic, C, C++, C#, etc.
- ACI enables control from National Instrument® LabVIEW™.
- On-the-fly utility allows controlling already launched programmer.
- Software includes scripting language.
- Project files are protected against hackers and corruption.
- Programmer kit includes a bracket for mounting on a DIN rail.
- Clip-on compartment with battery, LEDs and a button for standalone operation (optional).

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## Application Area

- Production-line multi-channel device programmer for use in programming fixtures, automated handlers, ATE, and ICT.
- In-system device programmer for development purposes.
- Standalone, battery-powered, in-field service programmer.

## Housing Options and Applications

- Palm-size unit in a plastic enclosure.
- User-configurable gang programming system comprised of single CPI2-B1 units mounted on a standard DIN rail.
- Hand-held battery-powered tool for in-field service.

## Options and Ordering Codes

- CPI2-B1 – single-channel programmer with no galvanic isolation of control lines.
- CPI2-ISO – single-channel programmer with galvanic isolation of control lines and RS-232 interface.
- CPI2-BB – add-on compartment with Li-Ion battery and controls for stand-alone operation.
- All above options include plastic brackets for mounting programmer units on a standard EN 50022 (TS35) 35 mm DIN rail.

## Communication interfaces

- USB 2.0 High-speed.
- 100 Mbit/s Ethernet (LAN).
- RS-232C (with CPI2-ISO option only).

## Control Methods

- From Automated Test Equipment (ATE), In-Circuit Test System (ICT), or programming fixtures; from command line or via Application Control Interface (DLL).
- Integration with National Instruments® LabVIEW™ software.
- On-the-fly management utility allows control of already launched and running device programmer.
- Built-in scripting language for writing user scripts.
- Auto programming can be started by closing fixture lid or by connecting a device.
- Friendly and intuitive graphical user interface (GUI) for creating and debugging projects.
- Optional simplified user interface for unskilled personnel.

## Standalone Control

- The programmer can work in a standalone mode.
- Up to 64 standalone projects can be stored on a built-in SD card.
- Any project can be launched by ATE signals or from a computer.
- Special utility allows monitoring standalone activity on a computer.

## Managing Projects and Configurations

- The software supports unlimited number of projects.
- SD card inside CPI2-GM1 module can store up to 64 projects which can be launched to program devices in standalone mode, without computer control.
- Project files are protected against hackers and corruption.
- The software ensures data integrity - every data transfer to/from a PC or ATE system or SD card is accompanied with CRC sum.
- The software allows storing and retrieving the state of user interface: configurations, colors, fonts, sounds, hot keys and other settable preferences.
- Battery powered option allows storing of up to 4 projects on internal SD card; user-selectable by pressing the button on battery compartment.

## Software Features

- Supports loading and saving files in all popular formats.
- Unlimited number of data buffers can be open and maintained.
- Enables arithmetic operations with data blocks in buffers.
- Enables writing serial numbers, MAC addresses and other device-specific parameters into special user-selectable shadow areas of target devices.
- Allows writing of user-defined signatures and data blocks into target devices.
- Offers several algorithms for calculating checksums.
- Special DLL for user-defined checksum calculation.
- Writes programming session logs with real time stamps.
- The GUI has a special editor for easy setting of device and algorithm parameters such as fuses, lock bits, protected sectors, boot loader vectors, etc.
- Comprehensive self-test procedure.

## Signals to/from the Target

- Ten input/output lines with logical levels 1.2 to 5.5V that can be individually programmed as TTL/CMOS logic I/O.
- The ten signal lines alternate with GND lines for stable programming via long cables.
- Two input/output lines which can be individually programmed as TTL logic I/Os, GNDs, Vcc or Vpp.

## Control Methods

- Start/Stop logic signal for external control.
- Output signals for external control: BUSY, GOOD and ERROR.
- Six logic inputs for choosing one of 64 preloaded projects.
- One low-current output for setting that can be used for project selection code.
- One output signal for charging an add-on battery (CPI2-BB).
- Three GND lines.

## Powering Options

- From external power supply 5V/1A (not included).
- From PC USB port.
- Rechargeable Li-Ion battery (with CPI2-BB option only).

## Powering Targets from the Programmer

- When powered from an external power supply (5V@1A), provides the target equipment with the voltages: Vcc (1.2 to 5.5V @ up to 350mA) and Vpp (1.2 to 15V @ up to 80mA).

## Dimensions

- CPI2-B1 unit: 114 x 73 x 32 mm (~4.5 x 2.9 x 1.25 inch).
- With CPI2-BB battery: 114 x 99 x 32 mm (~4.5 x 3.9 x 1.25 inch).

## System Requirements

- Microsoft® Windows™ 7, 8 or 10.

## Contact information


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