Phyt [™] *ChipProg*[™]-ISP2 Series CPI2-Gx Production Gang Device Programmer

Phyton CPI2-Gx production gang device programmer is designed to program multi-board panels in test fixtures, automated testers and handlers. It currently supports 40,000+ in-system programmable microcontrollers, flash memory, and programmable logical devices. Support for new devices is always in our development pipeline.



Features Overview

(Applicable to current model, may change in future revisions)

- Extremely fast paneled PCB programming.
- Optionally can be equipped with 2 to 7 programming modules.
- Daisy chain up to 72 programming channels.
- Each programming module has a built-in 1-to-2 demultiplexer.
- External relay demultiplexer option.
- External relay barrier cuts the programmer off test equipment.
- Computer controlled or standalone operations.
- Programs devices with Vcc from 1.2V to 5.5V.
- Supports JTAG, SWD, SPI, SCI, I²C, UART, and other interfaces.
- Supports multiple projects running concurrently to program different device types on same target.
- Synchronous and asynchronous launch modes.
- Can program some devices at a long distance up to 5m (~15ft).
- USB 2.0 High Speed and LAN 100 Mbit/s communication interfaces.
- User-friendly intuitive graphical user interface (GUI).
- Simplified graphical user interface for use by unskilled personnel.
- Application Control Interface (ACI) and SDK.
- Enables control from programs in C, C++, C#, Visual Basic, etc.
- Enables control from National Instrument® LabVIEW™.
- On-the-fly utility allows controlling already launched programmer.
- Create programming scripts with included scripting language.
- Reliable data and project settings protection.
- Tamperproof software and firmware.

Housing Options and Order Kits

- Compact motherboard with seven mini DIMM slots for plugging in upright programming modules.
- Configurations with 2, 3, 4, 5, 6, or 7 modules can be ordered.

Communication interfaces

- USB 2.0 High-speed.
- 100 Mbit/s Ethernet (LAN) dynamic and static IPs addresses are supported.
- Up to ten daisy-chained CPI2-Gx gang programmers can be controlled by a single PC 72 channels altogether.

Computer Control Methods

- Compatible with Microsoft™ Windows® XP, 7, 8 or 10.
- From Automated Test Equipment (ATE).
- Command line control.
- Application Control Interface (DLL).
- Integration with National Instruments® LabVIEW™ software.
- On-the-fly management utility allows control of already launched and running device programmer.
- Scripting language for writing custom scripts.
- User-friendly graphical user interface (GUI).
- Optional simplified graphical user interface for unskilled personnel.
- Individual module targeting each module in the gang can be set to program different device type with different data.

Standalone Control

- Work in a standalone mode, without computer control.
- Each programming module stores up to 256 standalone projects.
- Up to 4 standalone projects can be launched by ATE signals.
- Individual module targeting it the standalone mode each module can program different device type with different data.
- Special utility allows monitoring standalone activity on a computer.

Managing Projects and Configurations

- The software supports unlimited number of projects.
- Project files are tamperproof and protected against corruption.
- The software ensures data integrity every data transfers between computer and device programmer is accompanied with CRC sum.
- The software allows storing and retrieving user-configurable options: GUI configurations, colors, fonts, sounds, hot keys, etc.

Powering the programmer

• From external power supply (9V-18V@3A).

Powering Targets from the Programmer

 Provides target equipment with Vcc (1.2 to 5.5V @ up to 350mA) and Vpp (1.5 to 15V @ up to 80mA).

Software Features

- Project support enables storing multiple images with associated configuration settings.
- Supports loading and saving files in all popular formats.
- Enables an unlimited number of data buffers to be opened and maintained.
- Enables arithmetic operations with data blocks in buffers.
- Enables writing serial numbers, MAC addresses and other devicespecific parameters into user-selectable device areas.
- Enables writing custom signatures and data blocks into devices.
- Choose among several algorithms for calculating checksums.
- Special DLL for user-defined checksum calculation.
- Writes programming session logs with real time stamps.
- A GUI editor for easy setting of device and algorithm parameters, such as fuses, lock bits, boot loader vectors, etc.
- Comprehensive self-test procedure.

Signals to/from Target (per one Module)

- Ten input/output lines with logical levels 1.2 to 5.5V that can be individually programmed as TTL/CMOS logic I/Os.
- Ten signal lines alternate with GND lines for stable programming via long cables.
- Some devices can be programmed at long distance: up to 5 m (~15 f) – actual distances are target-specific.
- Two input/output lines which can be individually programmed as TTL logic I/Os, GNDs, Vcc or Vpp.

Demultiplexers and Relay Barriers

- Built-in on-module demultiplexers enable doubling numbers of programming channels for sequential programming.
- External relay demultiplexer option up to 28 programming channels can be implemented in one CPI2-Gx with this unit.
- External relay barrier option enables cutting programming signals off the target panel while it is under testing.

Control Signals

- Start/Stop logic signal for external control.
- BUSY, GOOD and ERROR output signals for ATE control.
- Two logic inputs for choosing one of 4 preloaded projects.

Dimensions

150 x 130 x 60 mm (~6 x 5 x 2.5 inches) without external relay blocks

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