

# FLASH370i™ ISR™ Programming Kit

## Features

- Supports FLASH370i™ and Ultra37000™ devices (for Ultra37000V 3.3V support, please see the Ultra37000 ISR™ Programming Kit data sheet, CY3700i)
- Jam programming language support for Ultra37000 devices
- Standard JTAG programming interface
- Multi-device programming
- Supports cascading of devices
- Easy to use Windows 95™, Windows 98™, and Windows NT™ 4.0 compatible interface
- Eliminates programming insertion to improve manufacturing efficiency
- For programming in the lab, on the manufacturing floor, or at remote sites
- ATE support via Jam on industry leading ATE platforms

## Kit Contents

- ISR (In-System Reprogrammable™) Programming Cable for use with FLASH370i and Ultra37000 devices
- ISR Programming Software Release 2.2
- ISR Application Notes

## Functional Description

The ISR programming kit enables users to program FLASH370i and Ultra37000 CPLDs on board with our ISR Programming Kit, ISR programming cable, and a personal computer. The

ISR programming cable connects to the parallel port of a PC into a standard 10-pin male connector mounted on the user's board.

### ISR Programming Software

The ISR software provides an easy to use Graphical User Interface that accepts JEDEC files as input. The JEDEC files are used in ISR programming for FLASH370i CPLDs.

JEDEC files are also used to compose platform and device independent Jam files. Jam files are used in ISR programming for Ultra37000 CPLDs.

The ISR software reads in a simple user-defined configuration file that dictates how many devices are in the daisy chain and what operation is to be done on each Cypress device. The same chain can be used with other JTAG compliant devices.

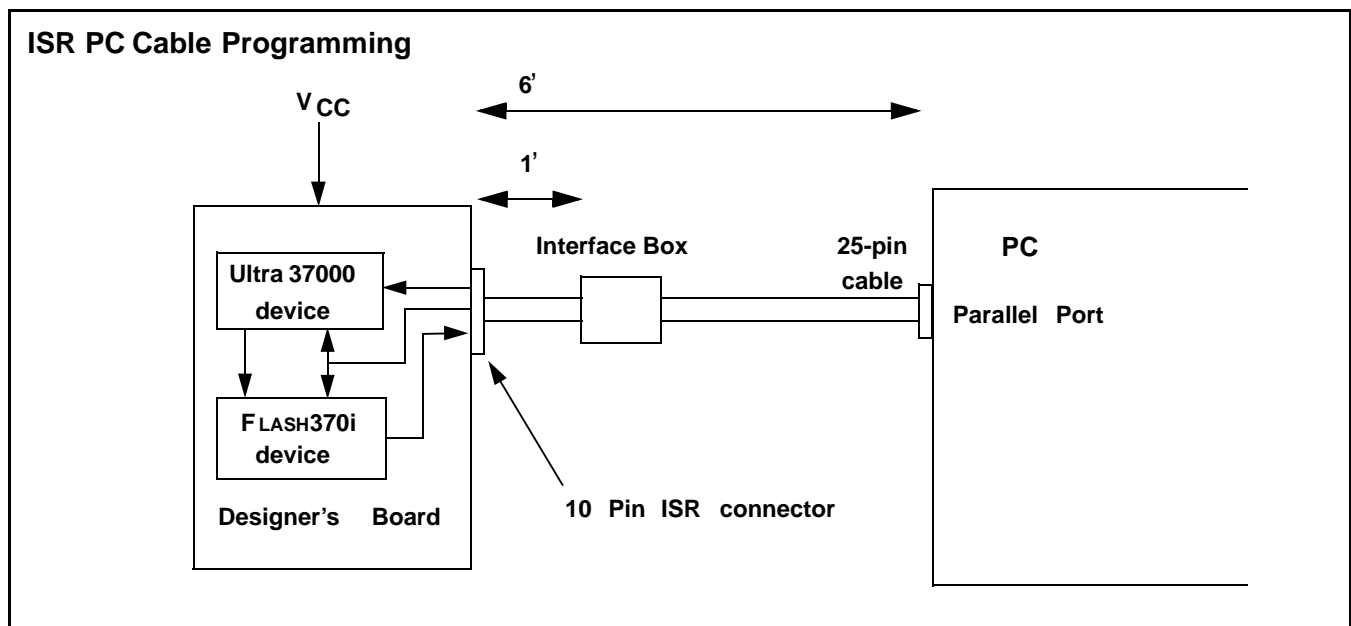
The ISR User's Guide (in the CD-ROM documentation) describes the operation of the ISR software. The application notes included with the kit describe the Ultra37000 and FLASH370i architectures and system design considerations for programming with the FLASH370i ISR Programming Kit.

### 10-pin ISR Connector

The diagram below shows the pinout of the 10-pin male connector to be mounted onto the board.

The view looking down onto the board is shown below.

SDO	VCC	ISR <sup>[1]</sup>	ISRVPP	GND <sup>[2]</sup>
GND	NC	SDI	SCLK	SMODE



### Notes:

1. Refer to the CD-ROM ISR User's Guide documentation for detailed information on ISR programming and electrical specification requirements.
2. Pin1 Connection.

**Table 1. FLASH370i Pin Description.**

Pin	Type	Description
ISRVPP	OUTPUT	In System Reprogramming high-voltage programming pin.
ISR*	OUTPUT	In System Reprogramming enable indicator (active LOW).
VCC	INPUT	+5V supply voltage provided from the target system to the cable.
SDO	INPUT	Serial Data Output Receiver. The SDO output pin of the last device in the ISR chain of the system is connected to this input pin.
SMODE	OUTPUT	Serial Mode Control. This is the mode select control input for the TAP controller state machine contained in the ISR interface.
SCLK	OUTPUT	Serial Clock. ISR interface clock input.
SDI	OUTPUT	Serial Data Input Driver. This output pin is connected to the SDI input of the first device in the ISR chain.
NC	NC	No Connect.
GND	—	Zero volt common ground for PC and target system.

Table 1 describes the function of each of these pins on the ISR programming cable. An OUTPUT is provided by the PC and an INPUT is provided by the target system. The dimensions of the male connector required in the system are given below:

**Male Connector:**

- 2 x 5 = 2 rows, 5 pins per row
- Measuring from center of the pins, each pin is 0.1" from the others.
- Pin Length is 0.23"
- Pin cross-section is 0.025" x 0.025"

**Part Number:**

- Digi-Key® S2012-05-ND  
(straight-pin connector)
- Digi-Key S2112-05-ND  
(right-angle connector)

**PC System Requirements**

- One free parallel port
- 486 / 66MHz PC or better
- Windows 95/98/NT
- 16 MB of RAM
- 1MB or more disk space

**Ordering Information**

Product Code	Description
CY3600i	ISR Programming Kit

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<b>Document Title: CY3600i FLASH370i™ Programming Kit</b> <b>Document Number: 38-03041</b>				
<b>REV.</b>	<b>ECN NO.</b>	<b>Issue Date</b>	<b>Orig. of Change</b>	<b>Description of Change</b>
**	106566	09/15/01	SZV	Change from Spec number: 38-00733 to 38-03041



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