### Introduction

FLASH-100 Gang Programmer is designed to provide high quality programming platform for new released IC products on the market especially for high density FLASH units. FLASH-100 works with multiple Socket Boards to perform multi-site programming for limited / mass production. Through USB port, 4/8 sets of FLASH-100 can be connected to one PC for either synchronous or asynchronous multi-site programming to maximize production capacity.

FLASH-100 extremely high freq. core circuit design significantly cut down programming time of high density memory products. FLASH-100 Programmer has 56 x 8 sets of Precise Universal Pin Driver to provide high speed, low noise, accurate and reliable programming signals for various IC products including high speed low power devices recently released to market. Each site owns individual Pin Driver so sites are totally independent without interfering each other during multi-site programming.

FLASH-100 can be setup for multi-site & multi-set operation when production required. Up to 8 sites x 8 sets = 64 sites can be programmed simultaneously to maximize production. For more to go, the FLASH-100 based Automated Programming System, AT3-300 Series, can serve the requirement.

The supporting software is updated weekly on HILO web site for check / retrieve through Internet easily. Programming of new products will not be neglected after purchasing.

## **Key Features**

### **Excellent performance:**

FLASH-100 extremely high freq. core circuit design significantly cut down programming time of high density memory products. Precise Universal Pin Drivers provide high speed, low noise, accurate and reliable programming signals for various IC products including high speed low power devices recently released to market.

#### Wide range of IC coverage:

FLASH-100 supports wide range of IC products including EEPROM, Serial EE, SPI memory, NOR/NAND FLASH, MPU/MCU product types and DIP, SDIP, SOP, SSOP, TSOP, PLCC, QFP, QFN, SON, BGA package types.

#### Easy to setup & operate:

FLASH-100 setup and operation can be done easily by connecting Programmer to PC with Windows 2000/XP/Server 2003/Vista O.S. through USB port, load data file or read Master IC, then select functional options (Program, Verify, Auto..etc.) to start programming.

### Site independent parallel programming:

FLASH-100 Programmer has 56 x 8 sets of Precise Universal Pin Driver, each site owns individual Pin Driver so sites are totally independent without interfering each other during multi-site programming. FLASH-100 can be setup for multi-site & multi-set operation when production required. Up to 8 sites x 8 sets = 64 sites can be programmed simultaneously to maximize production.

## High expansion flexibility:

Easy to expand programming types for various FLASHs by simply replacing appropriate Socket Boards on top of Programmer.

### Timely software support:

The supporting software is updated weekly on HILO web site for check / retrieve through Internet easily. Programming of new products will not be neglected after purchasing.

### World wide service:

Distribution channel covers 35 countries worldwide, all inquiries / problems can be served easily and timely.



e-mail: info@falcon-denshi.co.jp URL: www.falcon-denshi.co.jp

# **Specification**

#### ■ Core controller

16 bits high freq. core control circuit with big sized FPGA & CPLD

#### ■ Key functions

Load File, Read Master, Program, Verify, Auto, ID Check, Checksum, Blank Check, Erase, Secure, Protect / Unprotect, Edi, Function Configuration, Self Test.

#### ■ Support devices

- IC types: EEPROM, Serial EE, SPI memory, NOR/NAND FLASH, MPU/MCU...etc.
- IC packages: DIP, SDIP, SOP, SSOP, TSOP, PLCC, QFP, QFN, SON, BGA...etc.
- IC leads : 8 pins ~ 300 pins

#### ■ Device contact

Dedicated Socket Board (HD-xxx-xxx) per IC package type

### ■ I/O channels

56 x 8 sets Precise Universal Pin Driver

Provide high quality programming signals for high speed low power (1.8V) devices

### ■ Load / expansion capacity

Up to 8 sites parallel programming per set. Up to 8 sites x 8 sets = 64 sites per PC setup.

#### ■ Data transfer interface

Transfer port : USB x 1

Transfer speed: USB1.1: 12 Mb/sec. USB2.0: 480 Mb/sec.

#### ■ Host computer requirement

- An Intel Pentium 4 or compatible processor with 512MB of RAM
- At least one USB port is available
- 50MB free hard disk space
- Windows 2000 / XP / Server 2003 / Vista operation system
- CD ROM / DVD ROM Drive

#### ■ Power

- Power source : 100~240 VAC 50~60 Hz
- Power consumption : ~ 0.8 A

#### ■ Operation temperature

 $0 \sim 40^{\circ} (32 \sim 105^{\circ})$ 

### **■** Dimension

W x D x H 162mm x 257mm x 100mm

## ■ Weight

~ 2.24 kg (Base Unit) ~ 2.56 kg (with socket boards on top)

## ■ Certification

CE certified

# **Ordering Information**

## ■ Standard accessories :

Include FLASH-100 Base Unit, USB cable, driver S/W and user manual in CD-ROM

## ■ Optional accessories :

- HD-xxx-xxx : Dedicated Socket Board per IC package type
- Please check http://www.falcon-denshi.co.jp web site for appropriate P/N of Programming Module / Adapter / Converter for IC package to be programmed



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