# **MP-ISP/ST7** In-Circuit Gang Programming System for ST7 FLASH Family





TARGET BOARDS Up to eight target boards can be in-circuit programmed simultaneously. Each target board is connected to an ISP Programming Head via an ISP flat cable.

# Overview

The MP-ISP/ST7 In-Circuit Gang Programmer, in combination with a standard personal computer, is a full-featured, high-performance multiple (gang) programming system specific for ST7 FLASH microcontrollers. MP-ISP/ST7 is able to in-circuit program up to eight devices

MP-ISP/ST7 is composed of a single, universal and upgradable base unit, ready to support current and future devices (code: MP8011A) and by eight "programming heads" (code: PH-ST7FZ). Each programming head features a header connector with all the necessary ISP signals required to in-circuit program the target system (the same MP8011A base unit can be used in conjunction with a wide range of other optionally purchasable programming heads for traditional socket programming)

MP-ISP/ST7 is a PC-hosted system: it communicates with the host PC through the LPT parallel port. Blank checking, reading, erasing, programming and verifying operations are supported. MP-ISP/ST7 is ready to support future devices. The upgrade operation for the support of new devices is as simple as downloading new releases of the PC software.

The MP-ISP/ST7 comes with the main gang programmer unit (MP8011A), eight ISP programming heads (PH-ST7FZ), eight ISP flat cables to connect to the target systems to be programmed, external power supply adapter, parallel cable and user's guide.

# The User Interface

The MP-ISP/ST7 user interface has two separate windows for editing the code and data memory (if present) of the device to be programmed. An

Info panel always displays information about the device to be programmed. Additionally, the status of the programming sites is shown together with the statistics about the programmed device. The editing of the Option Byte(s) is simplified through a special dialog box-the Option Bytes dialog box is specific for each device and allows you to edit each single bit of the option bytes of the device you are working with. MP-ISP/ST7 can perform blank checking, erasing, reading, programming and verifying operations. A special operation, the Auto operation, groups the blank checking, erasing, programming and verifying operations in a single operation, speeding up the programming process. All of the operations share a common, simple, easy-to-use dialog box.

# Protected Mode

Protected Mode simplifies the programming process by means of an easy, guided procedure that requires no special knowledge. Protected Mode is suitable when programming large amounts of devices. Entering and exiting the Protected Mode is password protected.

# **Software Upgrades**

SofTec Microsystems is continuously adding the support for new devices to the MP-ISP/ST7 Gang Programming System. The latest version of the user interface is always available free of charge at our download page.



# Supported Devices

ST72F264 ST72F32 ST72F324 ST72F52

ST72F56

| ST72F651   |
|------------|
| ST72F652   |
| ST7FDALI   |
| ST7FLITE0  |
| ST7FLITE1  |
| ST7FLITE2  |
| ST7FLITEBC |
| ST7FLITES  |
| ST7FMC1    |
| ST7FMC2    |
|            |

The support for new devices is added constantly. For the latest list of supported devices, please visit our web site.

### ogramming Functions

Load File, Edit Buffers (Code and Data Memory), Edit Option Bytes, Read Master, Blank Check, Erase, Program, Protect, Verify, Auto, Statistic

## Programming Times

Programming times depend on the microcontroller's FLASH memory technology, memory size and oscillator frequency. For eight HDFlash devices (ST72F324, 521, 561, 621, 651, etc.) with 32 KB and an oscillator frequency of 16 MHz, total programming time is about 13 seconds (including program Code, verify Code, program Options, verify Options). For eight XFlash devices (ST72F264, LITE0, LITE2, etc.) with 8 KB and an oscillator frequency of 16 MHz, total programming time is about 4 seconds (including program Code, verify Code, program Options, verify Options)

System Requirements • A PC running Win 9x, 2000, Me, NT or XP; • 64 MB of RAM plus 20 MB of HD space; One free parallel port.

Ordering Information Order code: MP-ISP/ST7. The following items are included:

- The programmer's base unit (MP8011A);
  Eight ISP programming heads (PHST7FZ);
  Eight ISP flat cables;
  A power adapter;
- A narallel cable A test board
- The user interface software;
- User's manual

Customers who already own the MP8011A unit need only purchase the ISP programming heads (code PHST7FZ) in order to get a full ISP programming system

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Each ISP programming head features a header connector with all the necessary ISP signals required to in-circuit program the target tem. ISP flat cables to connect to the target systems are provided.



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