

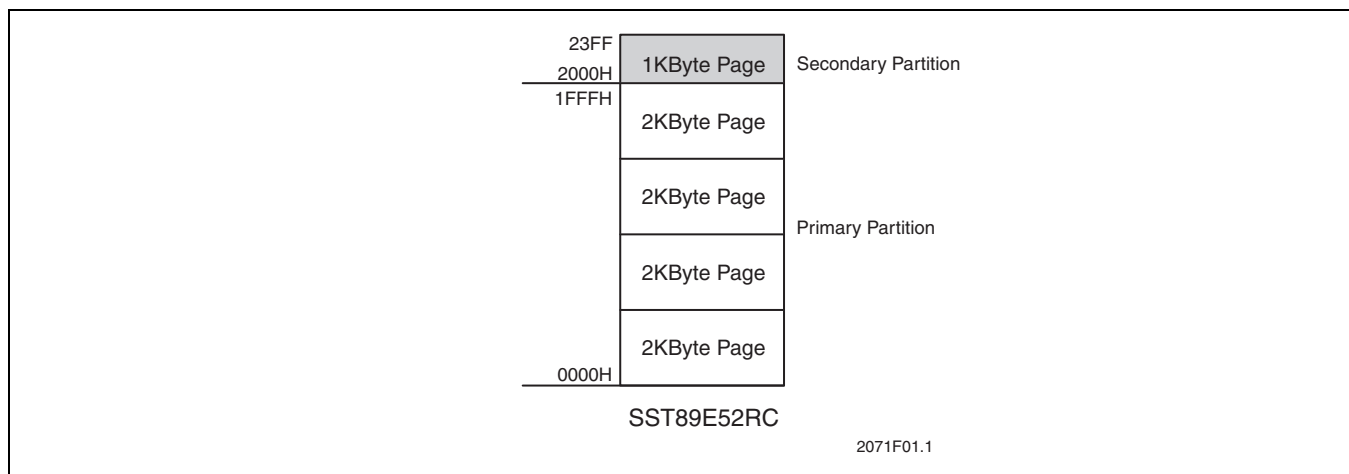
## INTRODUCTION

The SST89E52RC comes with a factory pre-programmed Boot Strap Loader (BSL) example which makes it ready to support new user-application software, either on the production line or in the field. SST provides MCU software as a reference example giving designers the choice to use the pre-programmed code in its original form or tailor it to their own application.

The BSL software enables SST customers to download or upload their application software into, or from, the flash memory using In-Application Programming (IAP) while their system is running. Important features include: data download/upload, serial connection self-detection, and automatic reset after download.

## MEMORY ORGANIZATION WITH BOOT STRAP LOADER

The BSL software is pre-programmed in the Secondary Partition, Partition1 (1 KByte), and occupies the address range from 0x2000 to 0x23FF in the program memory. Users download, or run, their application software in the Primary Partition, Partition0 (8 KBytes), address range from 0x0000 to 0x1FFF.



**FIGURE 1: SST89E52RC Program memory Organization**

Any actions that program or erase within the BSL software allocated address range (0x2000 to 0x23FF) will result in erasing the pre-programmed BSL software. To prevent the BSL software from being erased, do one of the following:

- Copy and include the BSL software into the application software at address range 0x2000—0x23FF.  
or
- Load both user application software and BSL software into the parallel programmer's buffer before the programming operation.

**Note:** If the BSL software accidentally erased, users can download the BSL software from [www.sst.com](http://www.sst.com).



## Application Note

### ADVANTAGES WITH PRE-PROGRAMMED BOOT STRAP LOADER

With pre-programmed BSL, developers can download/upload user application software as soon as they receive the device; whereas, without pre-programmed BSL, developers must develop their own customized boot code prior to downloading/uploading user application software. This shortens the development time. Application development can begin as soon as the device is received.

The SST89E52RC BSL software is supported by EasyIAP™, a Microsoft Windows® based software. EasyIAP provides a graphical user interface to setup the PC, select the chip type, run IAP functions (download, read, sector-erase, chip-erase, lock chip, memory remap or partition0 erase), compare data, print, and save acquired data. For further information regarding EasyIAP features, please refer to the *EasyIAP Boot Strap Loader Software User's Guide*.

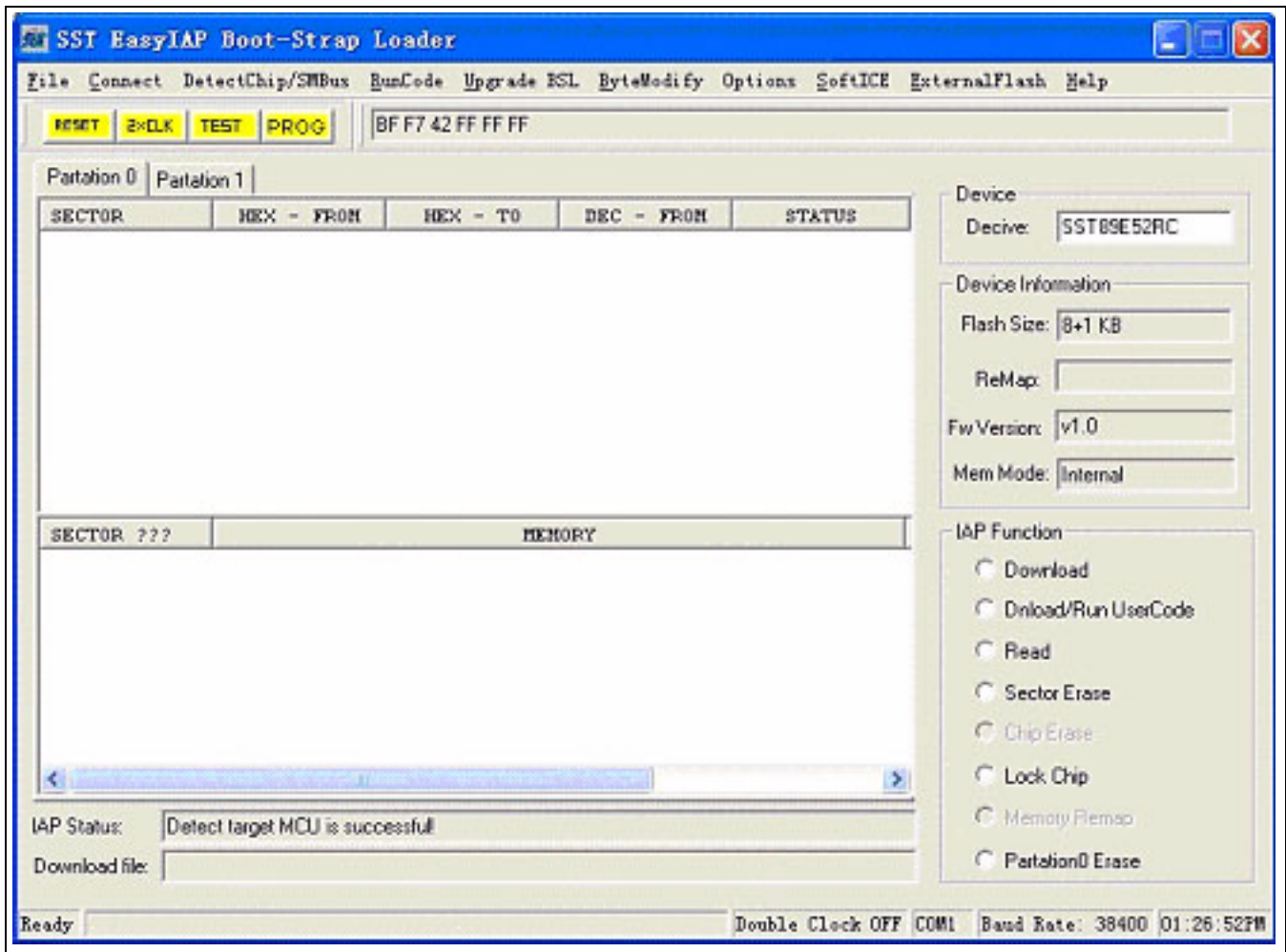


FIGURE 2: SST89E52RC EasyIAP Boot-Strap Loader Interface