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User's Guide

XELTEK

Superpro[®]5004GP

**Ultra-Fast, Built-in 144 pins
Programmer of the Future**

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Welcome

Welcome to the world of Xeltek Superpro programmers. Xeltek has produced the Superpro line of IC programmers since 1985. Our motto is to provide high value products at affordable prices. In the past 23 years, Xeltek has produced a string of highly popular and successful programmers including Superpro, SuperproII, SuperproIII, SuperproV, Superpro680, Superpro8000, Superpro3000U, and Superpro9000 models.

Superpro3000U is the first model to incorporate both PC connected and stand-alone modes operations combined into one programmer. It is also the first programmer to break the barrier of 40,000 devices supported in the industry. Superpro3000U is by far the most popular IC programmer in the industry today.

Pushing the barrier further yet, Xeltek is proud to announce the family of Superpro 5000 programmers. Superpro5000 retains all the good features of Superpro3000U, but, in addition, it is designed to program today's large size devices efficiently and effectively.

Feature Highlights

- The SUPERPRO includes ultra high speed programming via 32bit RISC MCU device. This is especially suitable for programming high capacity NAND Flash devices
- A 144 pin-driver support is built-in to provide efficient programming of large pin count devices, an additional pin expander module is not necessary to program large pin-count devices.
- The SUPERPRO operates with a PC for engineering purpose or in stand-alone mode, without a PC, for repeat production mode programming. This provides seamless migration from engineering to production.
- The SUPERPRO communicates through a USB 2.0 port and operates on most Pentium-based, IBM compatible desktop/notebook computers.
- The SUPERPRO comes with a standard 48-pin DIP ZIF socket and supports optional socket adapters to accommodate PLCC, TSOP, SOIC, SOP, QFP, TSSOP and BGA package types.
- The programmer and software supports Windows XP and Windows Vista.
- The programmer is scheduled to support 43,000+ IC devices by the end of 2008. Please check www.xeltek.com.cn for the list of the currently supported devices.

- For authorized users, the SUPERPRO can provide for automatic generation of electronic serial numbers.

IMPORTANT! Make sure to complete the software installation before connecting the programmer USB cable.

Manual Organization

This manual includes the following:

- An introduction to the SUPERPRO series, including the system requirements and the software and hardware installation
- Detailed explanations on the commands and the programming procedures
- Information about error messages and common problems
- An Appendix that includes the customer support information

Note: The software prevails in any discrepancy between it and the user manual, due to any upgrades of the software.

The information in this document is subject to change without notice.

Chapter 1 General Description

This chapter provides information on the package contents, software features, and system requirements for SUPERPRO.

Introduction to SUPERPRO 5004GP

The SUPERPRO is a cost-effective, reliable, and high-speed universal programmer for mass-production. They are designed to communicate with a USB 2.0 port of PC by a standard USB cable. Online software provides friendly interface, powerful functions and flexibility.

Package Contents

The standard package contains the following items:

- A programmer module
- A USB connection cable
- A power supply unit
- A software installation CD
- The User's Guide
- A registration form

Programming Hardware

SP5004GP is a mass-product programmer that can burn into four chips at the same time. It contains four burning modules, as illustrated below. The module marked "1" is the main module.



Model: 1

Model: 2

Model: 3

Model: 4

The programming hardware includes the following items:

- 4 complete independent modules
- High programming speed
- 144 pin universal pin-drivers design

Note: Universal adapters, support devices with 144 pins or less, for support of E/EPROM, FLASH, SCM, PLD, SRAM with normal or low voltage.

- Chip insertion test
- Asynchronous mode (Production mode)—operation starts as soon as the chip is inserted in the socket

Software Features

The USB 2.0 Series supports:

- Windows XP and Windows Vista
- Over 25,000 (40,000+ by end of 2008) types of devices, including PROMs, E/EPROMs, PLDs and MCU from more than 150 manufacturers
- Many types of formats such as Binary, Intel (linear & segmented) Hex, Motorola S, Tektronix (linear & segmented), JEDEC, POF, etc.
- Device insertion test (144 pins or less)
- Integrated full screen buffer editing environment with commands such as fill, copy, move, swap, etc.
- Project management
- Batch-processing command

System Requirements

The minimum system configuration is as follows:

- A desktop or laptop computer, IBM-PC 586 or compatible
- Windows XP or Windows Vista operating system
- A hard disk with at least 1 GB free space
- At least one standard USB port (USB 2.0)
- One CD-ROM drive

Chapter 2 System Installation

This chapter provides information on how to install the software and connect the programmer hardware properly.

To avoid complications during the installation process, you must install the software before connecting the programming hardware to your computer. Installing the software sets up the INF files and drivers automatically instead of going through the Windows New Hardware Wizard. This might install the wrong drivers with a compatible ID.

Software Setup

Select the software to setup your SUPERPRO programmer either from the CD-ROM or by downloading the program from the Xeltek website. Instructions for both methods are described below.

CD-ROM

1. Insert the CD into the CD-ROM drive.
2. If the setup program does not start automatically, run SETUP. EXE located in the root directory.

The system displays a dialog box to select the programmer model, illustrated below.



3. Select the appropriate programmer model. Make sure to select the model you purchased, since each model has its own software.
4. Select **Setup** to install the application software for the programmer.

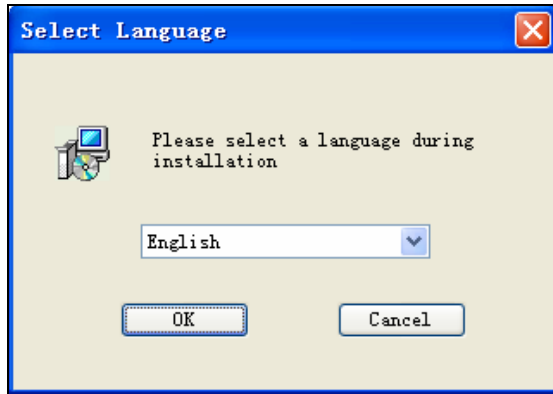
Xeltek Website

You can download the specific software for a certain model at Xeltek website: <http://www.xeltek.com.cn> Select the icon to download the appropriate file for your programmer. Once you have saved the file to your computer, run it to setup the software.

Setup Process

The following procedure explains the setup process.

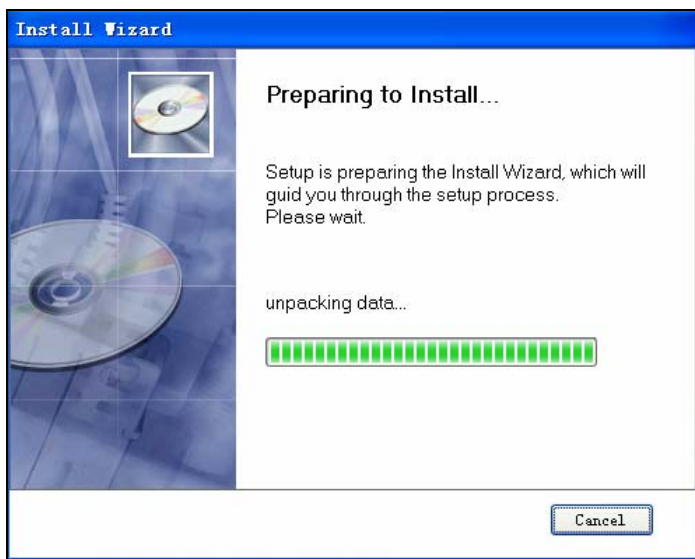
1. The system displays the **Select Language** dialog box, illustrated below.



Select your preferred language for the setup process from the drop down list.

2. Select **OK**.

The system displays the **Install Wizard** dialog box, illustrated below.

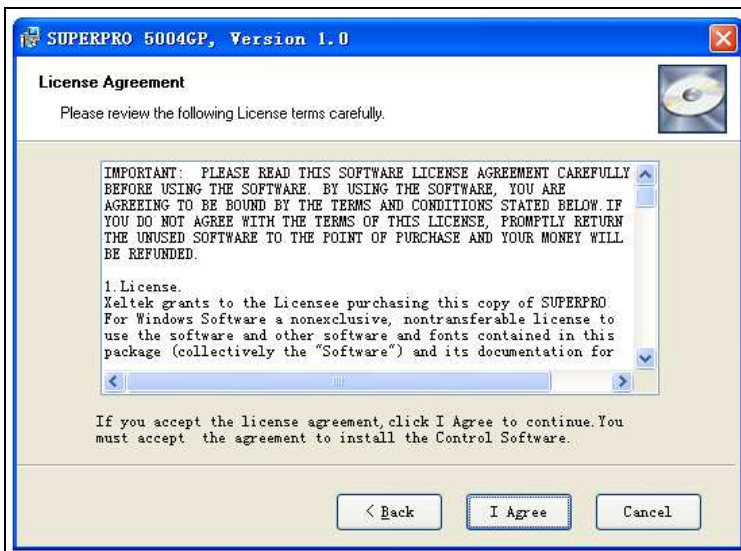


Next, the system displays the following dialog box.



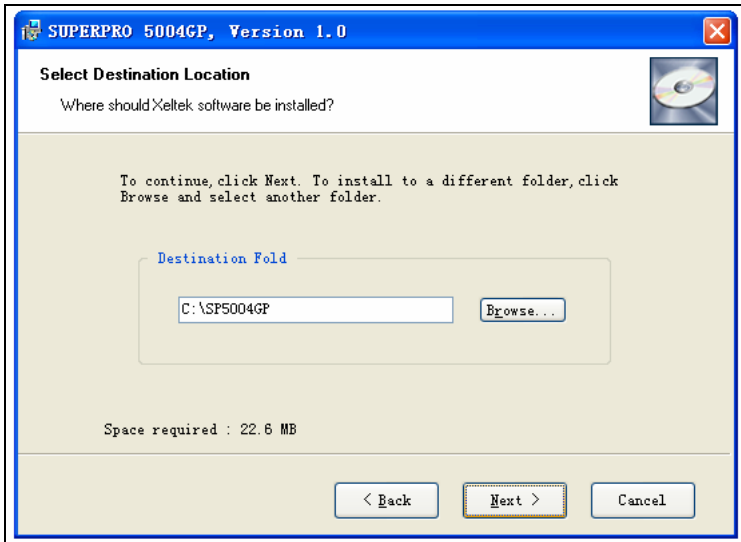
3. Select **Next** to proceed to the next step.

The system displays the License Agreement, illustrated below.



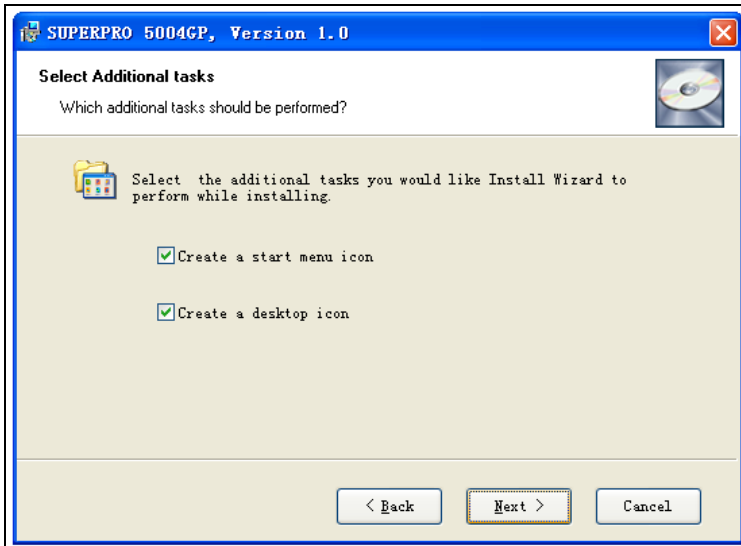
4. Please read the license agreement carefully. Select **I Agree** to continue the installation. To cancel the installation and exit the installation process, select **Cancel**.

The system asks for the **Destination Location**, illustrated below.



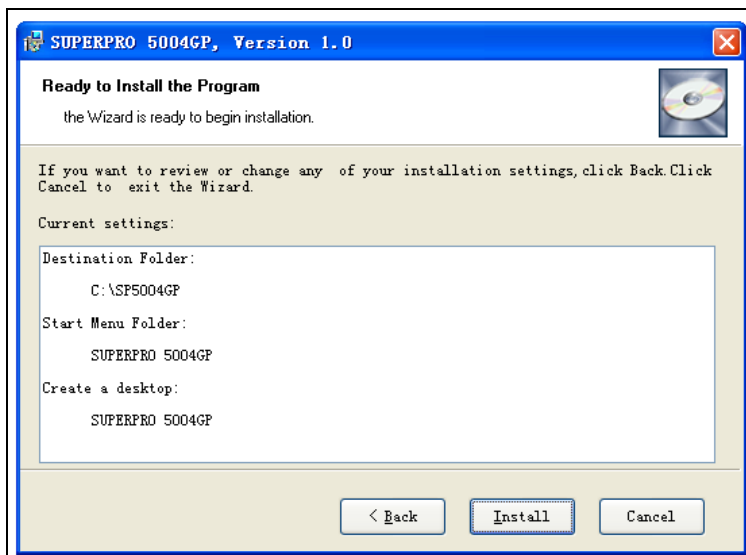
5. Select **Browse** to choose the installation path. After selecting the desired destination folder, select **Next**.

The system displays the **Additional tasks** dialog box, illustrated below.



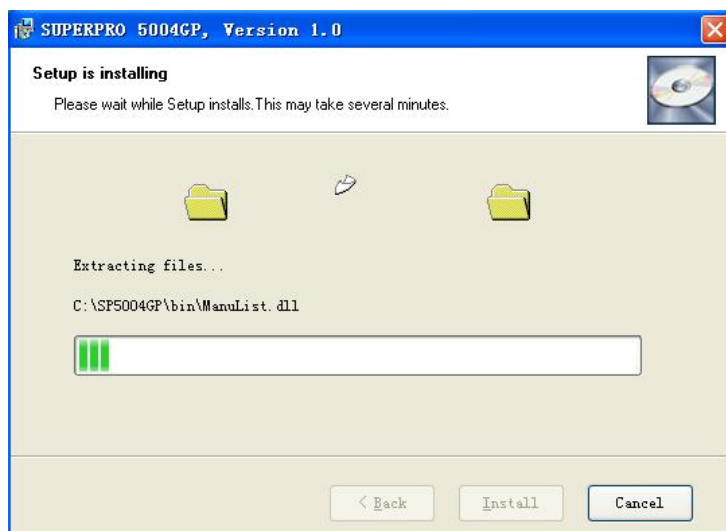
6. Check the **Create a start menu icon** box to add an icon on the Start menu during the installation. Check the **Create a desktop icon** box to add an icon to the desktop during the installation. Select **Next**.

The system displays the following dialog box.



7. Review the settings you selected. Select **Install** to proceed to the next step. Select **Back** to return to a previous step to change your selections.

The system displays the following dialog box.



批注 [mbw1]: Replace with screen shot for 5004GP

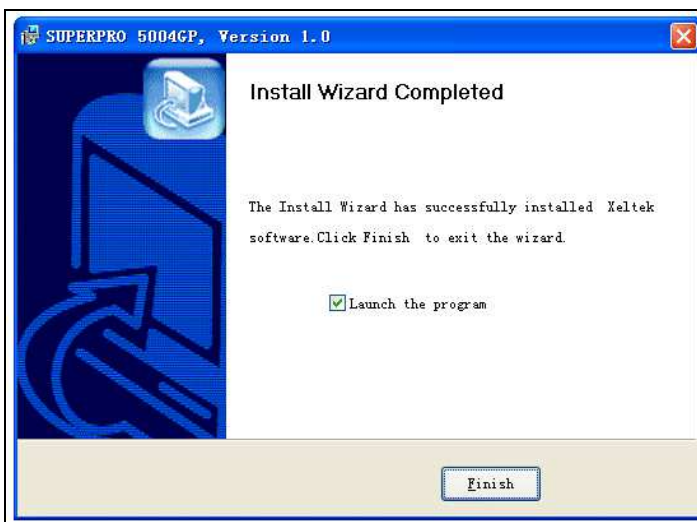
The system copies the files, installs the drivers and registers the software.

If you are using Windows Vista, the system displays following dialog box.



8. Select **Install this driver software anyway**.

The system displays the following dialog box.



9. Select **Finish** to complete the setup process.

Hardware and Driver Installation

If you connect the hardware before installing the software, the system opens the **Found New Hardware Wizard**, illustrated below.



1. Select **Cancel** to make sure the system does not install the wrong driver.
2. Return to the Software Setup process to setup the software before installing the hardware. Refer to page 11 for instructions.

After you set up the software, you can install the hardware and driver. The following procedure explains the installation process.

1. Make sure all other programs are closed during the installation process.
2. Connect the programmer module to the computer through the USB port.
3. Turn on the power switch of the programmer module.

When you connect the new hardware, the system initiates the **New Hardware Wizard**, which locates the driver from the software you have just installed. The system displays alerts one at a time, illustrated below. The alerts on your system may be slightly different.

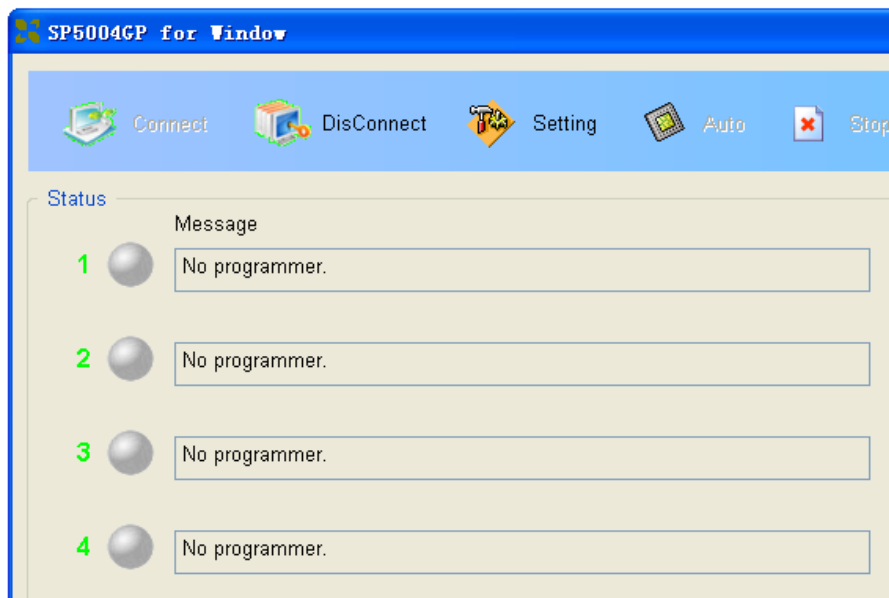


4. After you open the application software for the programmer, the system automatically starts the initialization. This software manages four independent modules, so it may take some time to communicate. The system displays a Waiting window, illustrated below.



Stop any operations while this message displays and the system is communicating with the programmer.

If the system does not automatically initialize, it may show a display similar to that illustrated below.



5. Make sure the programmer is securely connected to the computer and that the power switch is on.

Note: The four modules are independent of each other. Under urgent circumstances, if two or more modules are working, you can still use SP5004GP.

Chapter 3 SUPERPRO 5004GP Software Features

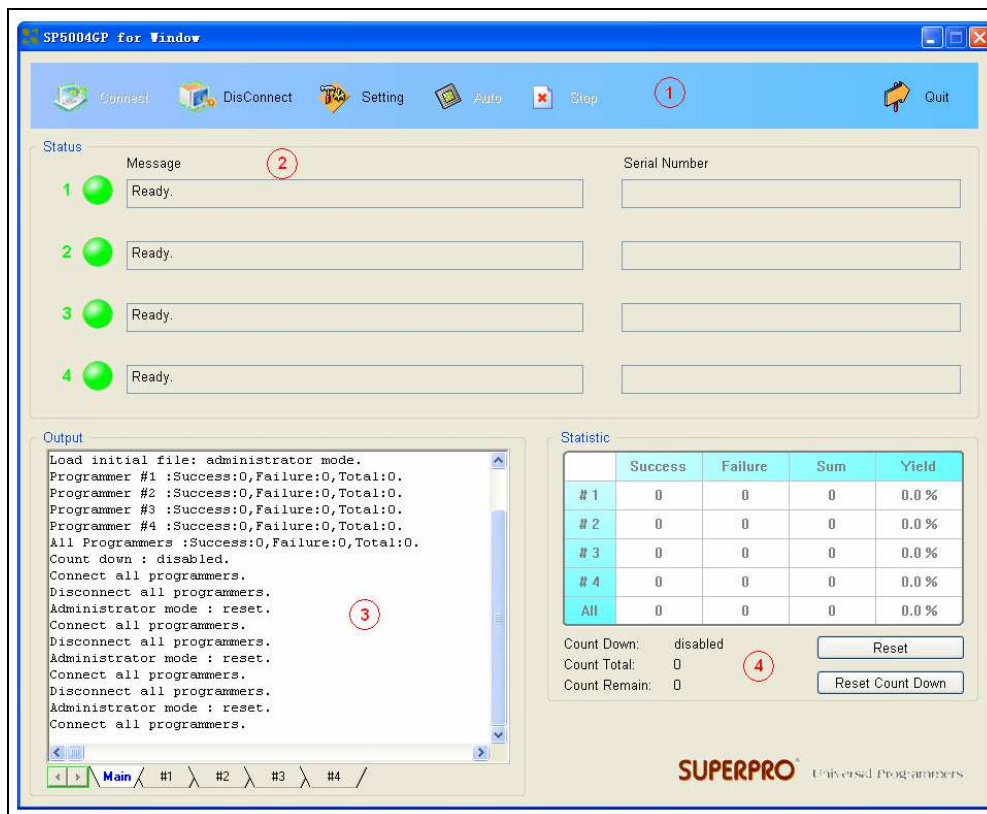
This chapter gives detailed explanations of the software functions of the programmer.

Important: Set your monitor display resolution ratio to 1023*768 or above.
The main screen cannot be resized.

Main Screen

SP5004GP focuses on information needed for mass production. It includes a more secure setting to ensure consistency in the burning process.

The main Superpro 5004GP screen is illustrated below. Each part of the user interface is labeled with a number and described below.



1. The Toolbar includes icons to access common functions. Refer to the Toolbar section on page 22 for more information.

2. The Burning Status window displays the burning process and instructs operators to insert or take out chips. Refer to the Burning Status Window section on page 51 for more information.
3. The Output window displays the running information of the program. Refer to the Output Window section on page 53 for more information.
4. The Statistic window displays the number of times of successful programming and the number of times of failed programming. Refer to the Statistical Window section on page 54 for more information.

Toolbar

The toolbar is illustrated below. Each tool is explained in the following sections.



Connect/DisConnect

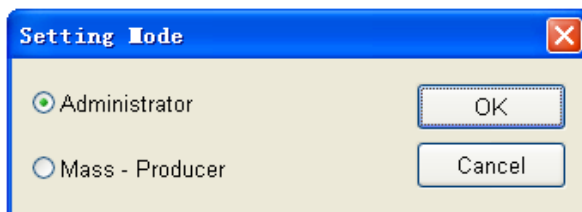
The programmer software uses Microsoft Winsock protocol to manage four independent modules. The main screen is a management interface that controls the hardware of the programmer by sending commands to the SP5000 software. After the main interface, the process of communicating with the SP5000 software starts automatically.

If the system does not find the programmer or something is wrong with a module, select **DisConnect** to cancel the connection. Then check the connection between the hardware and computer. Select **Connect** to reconnect.

Setting

The Superpro 5004GP has an Administrator mode and Producer mode to separate management from production.

Select the **Setting** tool to choose whether to enter Administrator mode or Producer mode. The system displays the Setting Mode screen, illustrated below.



Select either **Administrator** or **Mass-Producer** to indicate the mode for which you want to indicate the settings. Refer to the Setting Screen (Administrator) section on page 23 or the Setting Screen (Producer) section on page 50 for more information.

Auto

After making the programming preparations, select **Auto** to start the programmer.

Stop

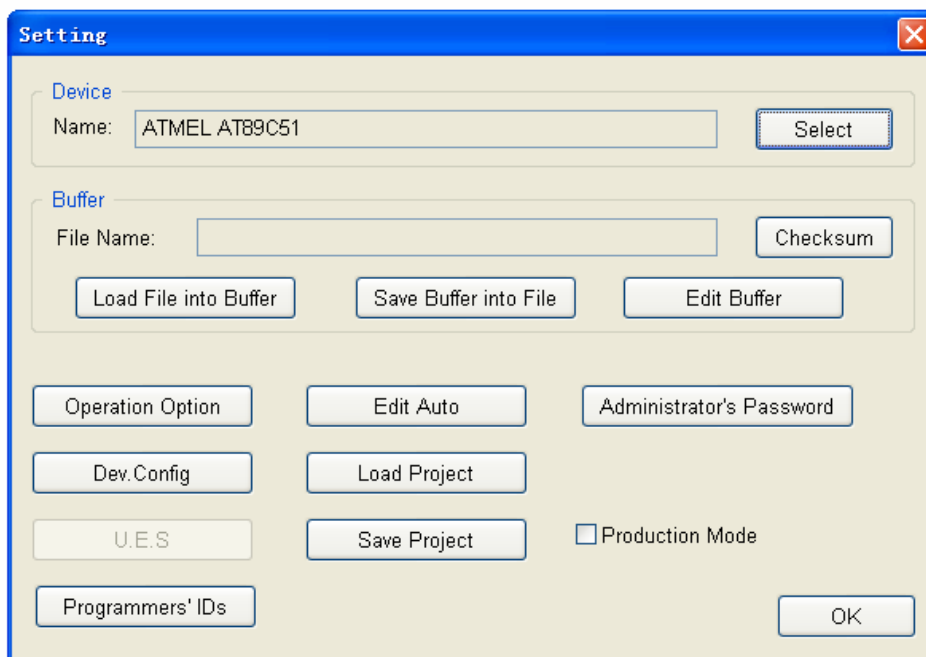
Select **Stop** to cancel the current operation.

Quit

You cannot quit while burning chips. After the operation is complete, or after canceling the current operation, select **Quit** to exit the program. If you have set an administrator's password, you must enter the correct password to quit.

Setting Screen (Administrator)

When you select **Administrator** on the **Setting Mode** screen, the system displays the Setting screen illustrated below. Each part of the screen is described below.



1. The system displays the name of the selected Device. Choose **Select** to open the

Select screen to select a device. Refer to the **Select** section on page 25 for more information.

2. The system displays the name of the loaded file in the File Name field. Select **Load File into Buffer** to open the Load File screen to load a file. Refer to the Load File Screen section on page 28 for more information.
3. After editing the buffer information, select **Save Buffer into File** to save data in the current buffer to a disk file. The system displays the Save File screen. Refer to the Save File Screen section on page 32 for more information.
4. Select **Edit Buffer** to open the Buffer Edit screen. Refer to the Buffer Edit Screen section on page 32 for more information.
5. Select **Checksum** to open the Checksum for Compatibility screen. Refer to the **错误! 未找到引用源。** on page **错误! 未定义书签。** for more information.
6. Select **Operation Option** to open the Operation Option screen. Refer to the Operation Option Screen section on page 38 for more information.
7. Select **Edit Auto** to open the Edit Auto screen. Refer to the Edit Auto Screen section on page 44 for more information.
8. Select **Dev. Config** to open the ConfigWord screen. Refer to the Device Configuration Word Screen section on page 47 for more information.
9. Select **U.E.S** to open the User Electronic Signature Bytes screen. Refer to the U.E.S Screen section on page 49 for more information.
10. Check the **Production Mode** box to program devices in large quantities. The programmer uses the Insertion Test to automatically detect insertion and removal of devices and carry out the entire programming process.
11. A project file allows you to save a working environment, including the device information, the operation option settings, and the content of the Auto mode.

Note: If you have upgraded or reinstalled the software, any previously saved project files become incompatible.

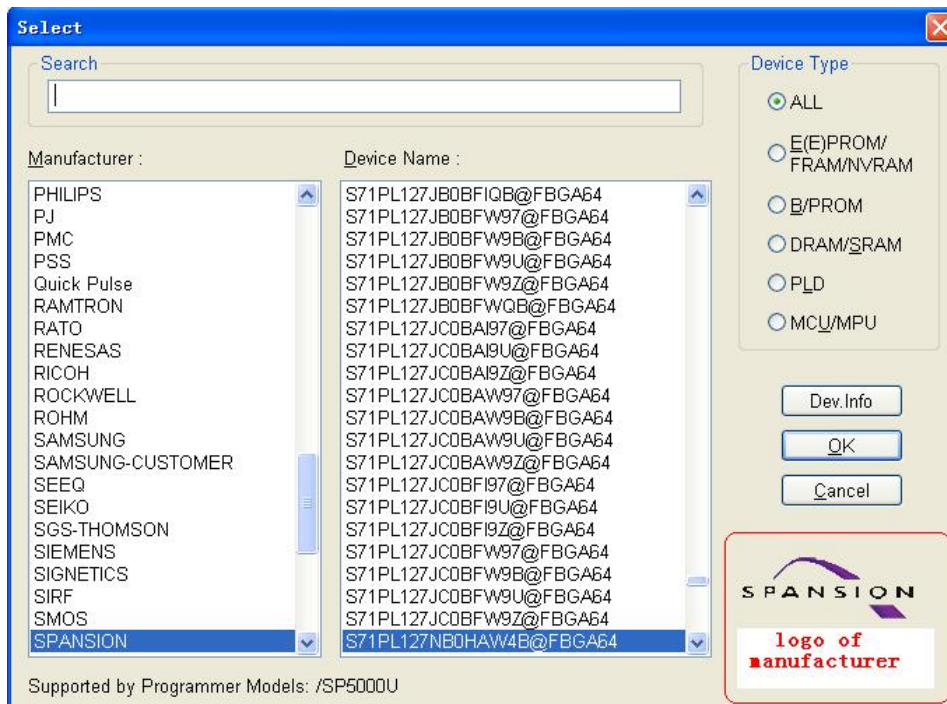
Select **Load Project** to select a previously saved project file using the File dialog box.
12. Select **Save Project** to save the current working environment to a specified project file.
13. Select **Administrator's Password** to set a password to prevent others from changing the program settings, including quitting or entering the program.
14. Select **Programmer's ID** to display the ID of the four modules. These IDs are

written when leaving the factory.

15. Select **OK** when you have finished indicating the Administrator settings.

Select Device

When you choose **Select** on the Setting screen, the system displays the Device Selection dialog box, illustrated below. Each part of the screen is described below.



1. Select one of the following **Device Types**:
 - **E(E)PROM** (including EPROM, EEPROM, FLASH)
 - **B/PROM**
 - **DRAM/SRAM**
 - **PLD**
 - **MCU**

Select **ALL** if you are not sure what type to choose.

2. In the **Manufacturer** box, highlight the desired manufacturer. The lower right corner displays the manufacturer logo to help ensure you select the correct manufacturer.