

# EIC-300 User's Guide

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## 1. Introduction to EIC-300

EIC-300 is a tiny ISP writer designed for programming Holtek Flash MCU. And it is the following version of EIC-100 & EIC-200; in addition, the feature of EIC-300 is small, light in shape and its function is easy to use.

## 2. Feature of EIC-300

- Programming by USB interface
- Programming speed is fast and it is convenient to use
- Support On-Line Update of EIC-300 firmware
- Programming power supplied by PC USB port without external power supply
- Support 3.3V/5V power for running Target Board. If your required current exceeds 300mA, please use the external power
- Support most of HOLTEK 8-bits Flash MCU, please refer to “Appendix A. Supported IC List for EIC-300” for all supported MCU names.

### 3. Hardware/Software Installation

#### 3.1 System Requirement

When you use EIC-300, you need the following devices and systems:

- Person Computer (PC) with USB port (provided by user)
- MS Windows 2000/XP or compatible window operating system (provided by user)
- USB Cable (Mini-USB) (provided in product)
- e-Cable Cable (provided in product)
- User Target Board (provided by user)
- “HOPE3000 for EIC-300” Software (Downloaded in HOLTEK Websides)

#### 3.2 Haredware Connection

Diagram

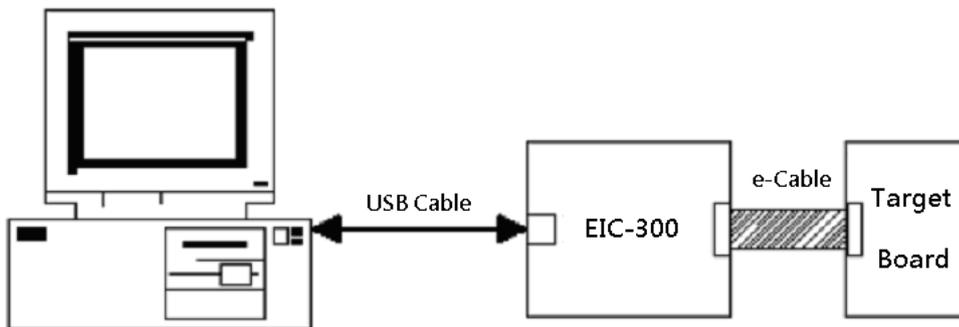


Fig. 1

Picture (The far right side is connected to PC)

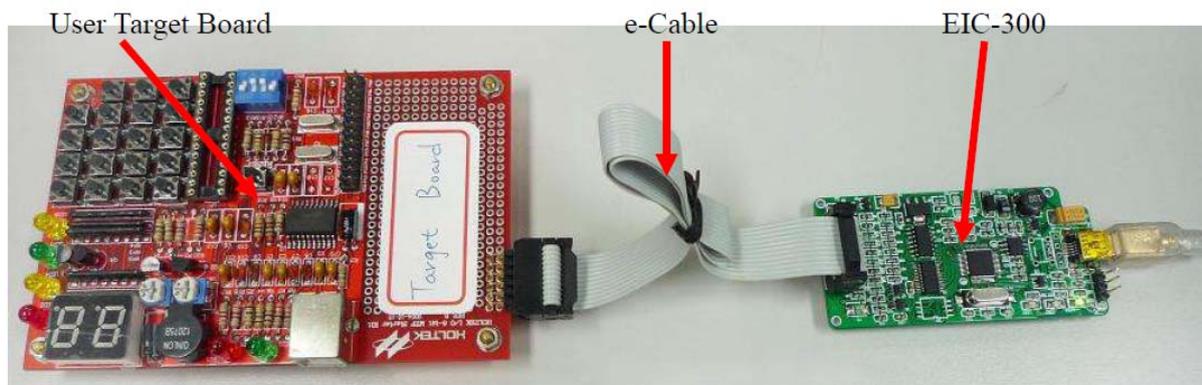


Fig. 2

Programming Pin Description on EIC-300 (as in the following Table. 1 and Fig. 3)

Pin Number	Pin Function
1	VDD
3	RESB
5	SCLK
7	SDAT
9	GND

Table 1

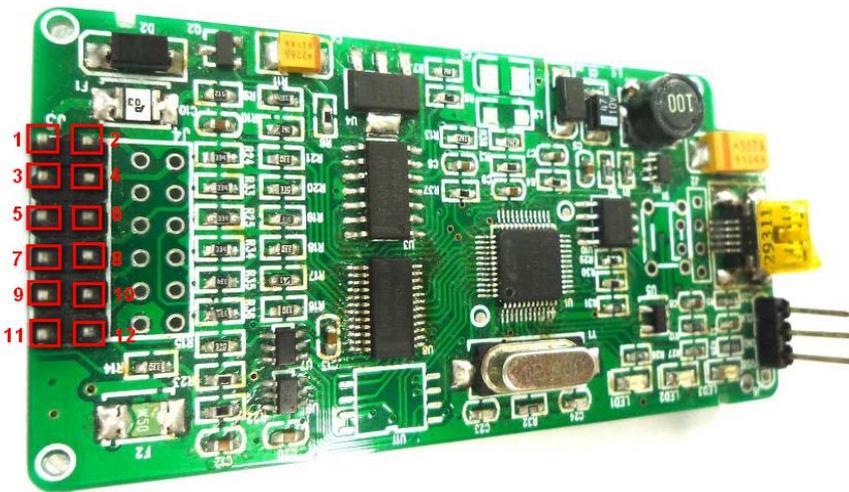


Fig. 3

### 3.3 PC Software (HOPE3000 for EIC-300) Installation

- Step.1 Download the “HOPE3000 for EIC-300” installation program from HOLTEK Websides ([Link](#)).
- Step.2 Execute installation program and finish installation by instructions in the program.
- Step.3 After installation, click “Start Menu/MCU Development Tools/HOPE3000forEIC300/HOPE3000forEIC300\_” to start the “HOPE3000 for EIC-300” software.

## 4. Introduction to HOPE3000 for EIC-300

### 4.1 【Upload】 Menu

#### **Upload**

Before executing “Upload” command, you need to execute “Menu/File/Select MCU Type” to select the proper MCU body. On “Select MCU Type” field, you can see all the MCUs that EIC-300 support.

“Upload” command contains three sub-commands: “Program”, “EEData”, “ALL”:

Select “Program”: only read the program ROM data.

Select “EEData”: only read the Data EEPROM data.

Select “ALL”: read both program ROM & Data EEPROM data.

#### **Remark:**

The read data is displayed in the proper window; if you need to save this data, please execute “Menu/File/Save”.

#### **Verify**

【Upload】 Menu also contains three “Verify” functions , which are “Verify Program”, “Verify EEData”, and “Verify All”.

“Verify” command is used to check if Program ROM and Data EEPROM data is correct. And note that you need to open the .MTP file before executing “Verify” command.

### 4.2 【Download】 Menu

#### **Download**

Executing “Download” command to download the Program ROM or Data EEPROM data to target IC. Note that you need to open the .MTP file (which file is produced after compilation on HT-IDE3000) before executing this command.

Download Steps are as the below:

- 1) Execute “Menu/File/Open” to open the proper .MTP file.
- 2) Execute the proper program command:

Select “Program”: download the Program ROM Data to target IC.

Select “EEData”: download the Data EEPROM data to target IC.

Select “All”: download the both Program ROM and Data EEPROM data to target IC.

3) After download, if you need to run the MCU program, you could execute “Menu/Tool/PowerOn” or you could select “Menu/Tool/Auto Power On” function before download.

### **Auto Verify**

If this option is selected, then the data checking for the current programmed IC ROM area will be done automatically after executing download “Program”, “EEData” and “ALL” commands.

### **Erase**

If you need to update the Program ROM or Data EEPROM data of the locked MCU, the “Erase All” command must be done before. Or you can execute “Erase Program” or “Erase EEData” by your requirement.

### **Lock Device**

After download, if you need to protect the data in IC, execute “Menu/Download/Lock Chip” function. This function is to protect your data in IC from read out.

## 4.3 【Tools】 Menu

The Tools menu supports the functions of “control the power of the target IC”, “Reset function selection”..etc.

### **View Option**

Execute this function to display IC Option setting (only for view without modifying).

### **Reset**

Execute this function to enforce MCU to return to its initial status.

### **Power On**

If the power is connected, after this command is executed, the downloaded MCU program start to run. The

supported voltage is 3.3V and 5V, and you can select which by your requirement.

**Note:**

If you use EIC-300 for Target Board power supply, EIC-300 supports 5V / 3.3V and the maximum current is 300mA which can meet the major portion of Target Board requirement. But if your application exceeds this restriction, please connect the external power supply.

### **Power Off**

After executing this command, if no any external power supply is connected to the target IC, then the MCU program cannot be run.

### **Auto Power On**

The function for this command is that after download or upload, EIC-300 supplies the power to target IC automatically.

### **View S.M.A.R.T**

After executing this command, the message which displayed programmed IC type, program cost time and Program times...etc pops up.

### **Erase S.M.A.R.T**

After executing this command, the program information is cleared. Usually you don't need to execute this function at the normal situation.

### **F/W Update**

Update EIC-300 Firmware.

## 4.4 【Extra】 menu

Not supported yet.

## Appendix A. Supported IC List for EIC-300

IC Category	IC Name
Cost-Effective A/D Flash Type 8-bit MCU with EEPROM	HT46F46E, HT46F47E, HT46F48E, HT46F49E
I/O Type 8-bit MTP MCU with EEPROM	HT48E06, HT48E10, HT48E30, HT48E50, HT48E70
I/O Flash Type MCU with EEPROM	HT48F06E, HT48F10E, HT48F30E, HT48F50E, HT48F70E
Enhanced A/D Flash Type MCU with EEPROM	HT66F20, HT66F30, HT66F40, HT66F50, HT66F60
Enhanced I/O Flash Type MCU with EEPROM	HT68F20, HT68F30, HT68F40, HT68F50, HT68F60
A/D Type Flash MCU with EEPROM	HT66F03, HT66F04, HT68F03, HT68F04
A/D Type Flash MCU	HT66F13, HT66F14, HT66F15
8-bit Touch Key Flash MCU	BS83B08-3, BS83B12-3, BS83B16-3, BS85B12-3, BS85C20-3
8-Bit Flash MCU with Op Amps & Comparators	HT45F43
Brushless DC Motor Flash Type 8-Bit MCU	HT45FM03B
TinyPower™ A/D Flash Type 8-bit MCU with EEPROM	HT45F0V

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