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**GD32 MCU ISP Console User Manual**

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# Introduction

This user manual describes an application used to operate the flash or config GigaDevice MCUs with available USART peripheral. It provides complete information on how to use GD32 ISP Console to use MCUs with command line easily.

# Contraction

**ISP:** ISP is short for In System Program, which means users can download codes without removes MCU from the PCB.

**USART:** Universal Synchronous Asynchronous Receiver Transmitter. It is a full-duplex synchronous/asynchronous serial transceiver module, the interface is a highly flexible serial communication equipment.

# The Sketch of GD32 ISP Console

## Functions

GD32 ISP Console is based on GD serial port bootloader communication protocol. It can implement various operations on microcontroller flash memory. The user can use it erase some or all flash memory sectors, upload flash memory data, download the application program to the internal flash memory, Enable/Disable protections for some or all flash memory sectors or get/set option bytes by commands easily.

## Operation Environment

The software can run in any pc with Windows operating system. The GD32 ISP Console communicates with microcontroller using the USART protocol, so you should make sure that the computer has an available com port (RS232).

# Instructions

# Operation Process

If you want to use this software, you shouldn’t worry about how to install. It is very easy for everyone. When you get the folder, you just have to decompress the folder. Then you can find the executable program named GD\_ISP\_Console, and some batch files. You can edit the batch file in command set format refer to the section 3.2, and double-click it to run to achieve the operation of target MCU.

# Command Set

The command set is as follows:

|  |  |  |
| --- | --- | --- |
| **Command** | **Sub Command** | **Remarks** |
| -? |  | Show the help |
| -c |  | establish connection to the COM port |
|  | --pn port number | e.g: 1, 2… default 1. |
|  | --br baud rate | e.g: 115200, 57600 ...default 57600 |
|  | --db data bit | value in {5,6,7,8} ... default 8 |
|  | --pr parity | value in {NONE,ODD,EVEN} default EVEV |
|  | --sb stop bits | value in {1,1.5,2} ... default 1 |
|  | --to time out | (ms) e.g 1000, 2000, 3000 ... default 5000 |
| -i | device name | e.g GD32F450ZKT6, [See the name in the chip] |
| -e |  | erase flash pages |
|  | --all | erase all pages |
|  | --sec number\_of\_pages\_group pages\_group\_codes | erase specified group pages |
| -u |  | upload flash contents to a .bin, .hex file |
|  | --fn file\_name | full path name of the file |
| -d |  | download the content of a file into MCU flash |
|  | --a address(hex) | address in hexadecimal; ignored if it is not a binary file |
|  | --fn file\_name | full path name (.bin, .hex file) |
|  | --v | verify after download |
| -r |  | run the flash code at the specified address |
|  | --a address(hex) | address in hexadecimal |
| -p |  | enable or Disable protections |
|  | --dwp | disable write protection |
|  | --drp | disable read protection |
|  | --erp | enable read protection, all arguments following this one will fail |
| -o |  | get or Set option bytes to a .bin file |
|  | --get --fn file\_name | get option bytes from the device |
|  | --set --fn file\_name | load option bytes from the specified file |
|  | --set –vals –OPB hex\_val | set the specified option byte |