

# **HY17P68 Series BIE Application Precautions**

# TOPIC

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# Preface

- ◆ This application note describes the precautions for HY17P68 product when using BIE function, and puts forward suggestions.

# Product Model

- ◆ This application note applies to the following product models No.
  - HY17P68 Series Products
    - Model No: HY17P68-D000
    - HY17P68-L064
    - HY17P68-L100

# Precautions-1

## ◆ Hardware Part

- When using 8.5V external VPP voltage for BIE burning, the peripheral circuit may cause voltage drop, resulting in BIE burning failure, therefore, it is recommended to use 8.6V~8.7V operation.

# Precautions-2

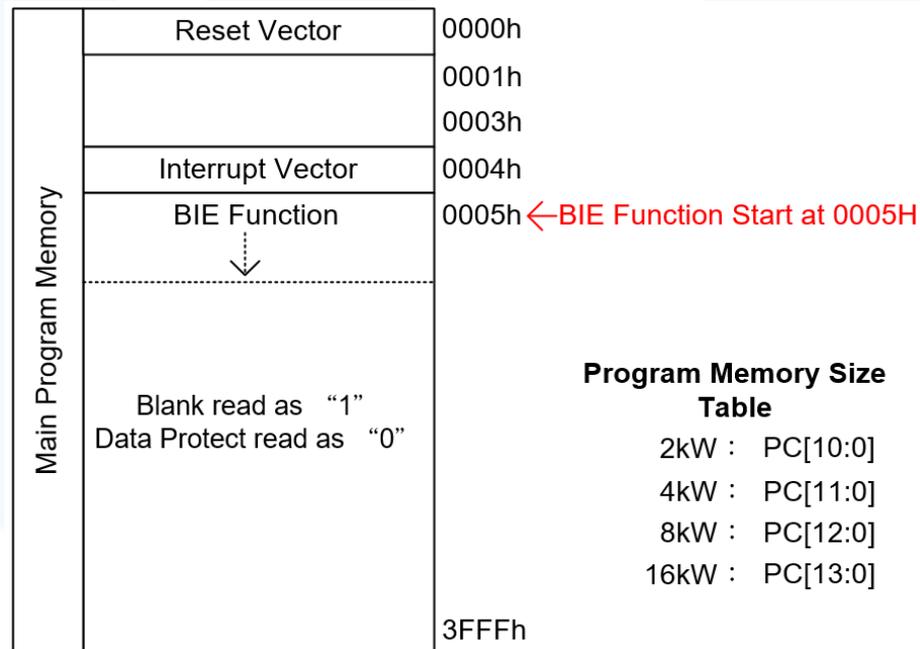
## ◆ Software Part

- No matter the internal boost or external voltage mode is used for BIE burning, the functions in “**HY17P68WR3.c**” or “**17P68WR3.asm**” provided by HYCON must be used for BIE burning
- After the burning is completed, it needs to delay 300ms, and the user can reset the LCD related registers before it can be used in the normal mode.(The external voltage mode requires the external voltage to be removed before the burning is completed, and then delay300ms)
- GIE interrupt must be turned off before operating BIE read and write function

# Precautions-2

## ◆ Software Part

- Whether using internal boost or external VPP voltage for BIE burning, the function provided byHYCON must be used (refer to Precautions-1), and the function must be placed after the interrupt vector.



# Suggestions-1

◆ The BIE burning library provided by HYCON must be used for BIE operation:

- The Demo Code contains four files

 BIE\_LVD\_ASM

 BIE\_EXTVPP\_ASM

 BIE\_LVD\_C

 BIE\_EXTVPP\_C

- For internal boost, refer to the example program “**BIE\_LVD\_ASM**” or “**BIE\_LVD\_C**”.
- For external VPP voltage, refer to the example program “**BIE\_EXTVPP\_ASM**” or “**BIE\_EXTVPP\_C**”.

# Suggestions-2

◆ The BIE burning function provided by HYCON must be placed after the interrupt vector, for example:

- When programming with Assembly language, after “LV17P68WR3 “ or “EXT17P68WR3” is placed in interrupt, please refer to the following methods:

```
ORG 0000H ;Reset Vector
JMP ProBegin

ORG 0004H ;Interrupt Vector
JMP ISR_CHECK

ORG 0005H ;BIE Function
include 17P68WR3.asm
```

- When programming with Assembly language, make sure to add the “#pragma codeseg HEADFUNC” command at the beginning of the program in the HY17P68WR3 file, which will put the BIE function in the file after interrupt:

```
1 #pragma codeseg HEADFUNC
2 #define USE_HY17P68_5M
3 /*****
4 * HY17P68WR3_LVD.c
5 *****/
```

# Suggestions-3

- ◆ When using internal boost mode for BIE burning, be sure to use the “**LV17P68WR3**” function provided by HYCON for BIE burning. Example:

C Language	ASM Language
Address=0000,Data=0xAA11	Address=0000,Data=0xAA11
result= <b>LV</b> 17P68WR3(0,0,0xAA,0x11);	CLRF BIEARH CLRF BIEARL MVL 0AAH MVF BIEDRH,F,A MVL 11H MVF BIEDRL,F,A call <b>LV</b> 17P68WR3BIE nopf <b>LV</b> 17P68WR3BIE BTSZ WREG,0,A
Return 0= pass, 1= VDD<2.75V, 2= VPP<8.5V	WREG= 0 pass, =1 fail

# Suggestions-4

- ◆ When using external VPP for BIE burning, be sure to use the “**EXT17P68WR3**” function provided by HYCON to burn BIE. Example:

C Language	ASM Language
Address=3C00,Data=0xAA11	Address=3C00,Data=0xAA11
result= <b>EXT</b> 17P68WR3(0x3C,0,0xAA,0x11);	MVL 0x3C MVF BIEARH,F,A CLRF BIEARL MVL 0AAH MVF BIEDRH,F,A MVL 11H MVF BIEDRL,F,A call <b>EXT</b> 17P68WR3BIE nopf <b>EXT</b> 17P68WR3BIE BTSZ WREG,0,A
Return 0= pass, 1= VDD<2.75V, 2= VPP<8.5V	WREG= 0 pass, =1 fail

**Thank you**

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