



Product Update

UP002902-0703

Addendum: Clock Mode Switching and Stop-Mode Recovery Delay

Introduction

This Product Update is an addendum to the product specifications for the following MCUs:

Z86C28	Z86E30
Z86C30	Z86E33
Z86C31	Z86E34
Z86C33	Z86E40
Z86C34	Z86E43
Z86C35	Z86233
Z86C36	Z86243
Z86C40	Z86733
Z86C43	Z86743

Clock Mode Switching

When changing clock mode selection bits D1 or D0 in the Stop-Mode Recovery Register (SMR), ZiLOG recommends that two No Operation (NOP) instructions immediately follow.

Example

```
LD RP, #0Fh           ;select BANK F
LD 0Bh, #0xxx01b     ;select divide by 16
                     ;select divide by 2
```

```
NOP
```

```
NOP
```

Note: x = user's choice.



Caution: Failure to add two NOP instructions after making a clock mode selection can negatively affect the next instruction.



Stop-Mode Recovery Delay



Caution: ZiLOG recommends that the Stop-Mode Recovery Delay disable (register SMR bit D5=0) be used when the external oscillator source is either an external clock driver, LC oscillator, or RC oscillator, where the oscillation occurs and stabilizes immediately. When the external oscillator source is either a crystal or a resonator, then ZiLOG recommends that the Stop-Mode Recovery Delay be enabled (register SMR bit D5=1) to allow the crystal or resonator to be oscillating and stable before program execution. Crystals and resonators require a brief time delay before they become stable. Otherwise, the microcontroller can operate incorrectly. Please refer to the particular crystal or resonator manufacturer's specifications for required start-up timing delays.

Additional Information

The following documents provide additional information.

- Product Specifications
 - Z86E30/E31/E40 Product Specification (DS97Z8X05)
 - Z86E33/733/E34/E43/743/E44 Product Specification (DS97Z8X15)
 - Z86C34/C35/C36/C44/C45/C46 Product Specification (DS007601)
 - Z86C28/E28 Product Specification (CP97Z8X51)
- User Manual
 - Z8 Microcontroller User Manual (UM0016)
- Emulator Specifications
 - Z86CCP01ZEM Emulator Product Specification (CP97Z8X53)



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