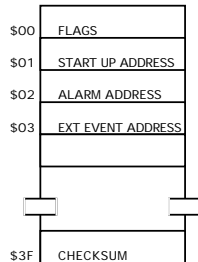
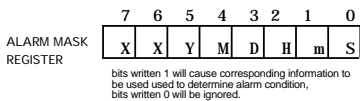
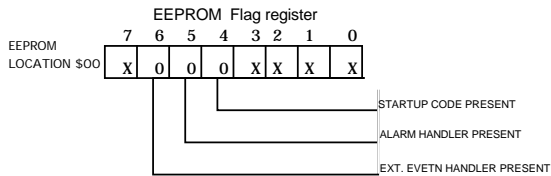


- EEPROM Interpreter Instructions**
- 00 Reset clock to zero
  - 02 Output pin high (reset alarm)
  - 03 Output pin low
  - 04 OR [next byte] with control register
  - 05 AND [next byte] with control register
  - 0C Set Alarm to [next byte]
  - 0D Increment registerA
  - 0E Load alarm mask with [next byte]
  - 0F Load register A with [next byte]
  - C0 Jump to [next byte] if registerA = [3rd byte]
  - C1 Jump to [next byte] if registerA [3rd byte]
  - 80 Jump to [next byte] unconditionally
  - 81 Jump to [next byte] if registerA = dataregister
  - 82 Jump to [next byte] if registerA = dataregister
  - 83 Jump to [next byte] if input pin is high
  - 84 Jump to [next byte] if input pin is low



From the point of view of programming access, the EEPROM is organized as pages of 16 bytes. Only the current page as addressed by control register bits 4 and 5 is directly accessible. The entire 64 byte space appears as one continuous block to the interpreter during execution.



**ATtiny12 Clock EEPROM INTERPRETER**

NOTE: Grounding output pin for first two seconds after power is applied will disable execution of code in EEPROM.

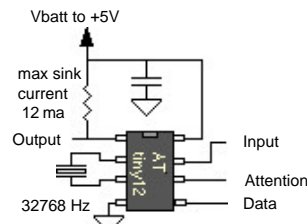
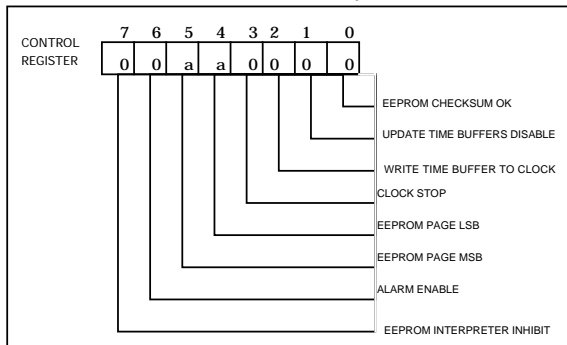
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 Pertains to version \$00 11 of ROM  
 projects@cappels.org, http://projects.cappels.org

- 1A/ Place contents of data register in register[A]
- 2A/ Read contents of register[A] to DS port
- 3X/ Dump time registers to DS port [Y:M:D:H:M:S]
- 4A/ Write contents of data register to EEPROM location [A]
- 5A/ Read contents of EEPROM location [A] to DS port
- 6X/ Interpret contents of EEPROM starting at address stored in Data Register (register 0)
- 7X/ Bless EEPROM (update checksum and ram flags)
- 8X/ Read firmware version number to DS port (2 bytes)
- 9X/ Set output pin high (Alarm Reset)

- Register assignments**
- | Register/Function            |
|------------------------------|
| 0 Data register from DS port |
| 1 RegisterA                  |
| 2 Alarm mask                 |
| 3 Year buffer                |
| 4 Month buffer               |
| 5 Day buffer                 |
| 6 Hour buffer                |
| 7 Minute buffer              |
| 8 Second buffer              |
| 9 Year alarm                 |
| A Month alarm                |
| B Day alarm                  |
| C Hour alarm                 |
| D Minute alarm               |
| E Second alarm               |
| F Control register           |

A = address, 0..F  
 X = don't care

Upon application of power, register 6 is written with FF. The first time update will replace it with the value \$01. This enables a host to tell if it is reading the registers before valid times are written to them.



**ATtiny12 Clock DS INTERFACE**

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