ClockMatrix

Programming the 24FC1025 EEPROM with the Total Phase EEPROM Board

Abstract

This document explains how to program the 24FC1025 EEPROM for use with Renesas 8A340xx devices. The procedure describes how to use the Total Phase Aardvark card, an EEPROM board, and a loose EEPROM. However, the same process can be used by connecting the Aardvark card directly to header interface wired to an EEPROM mounted on a PCB board.

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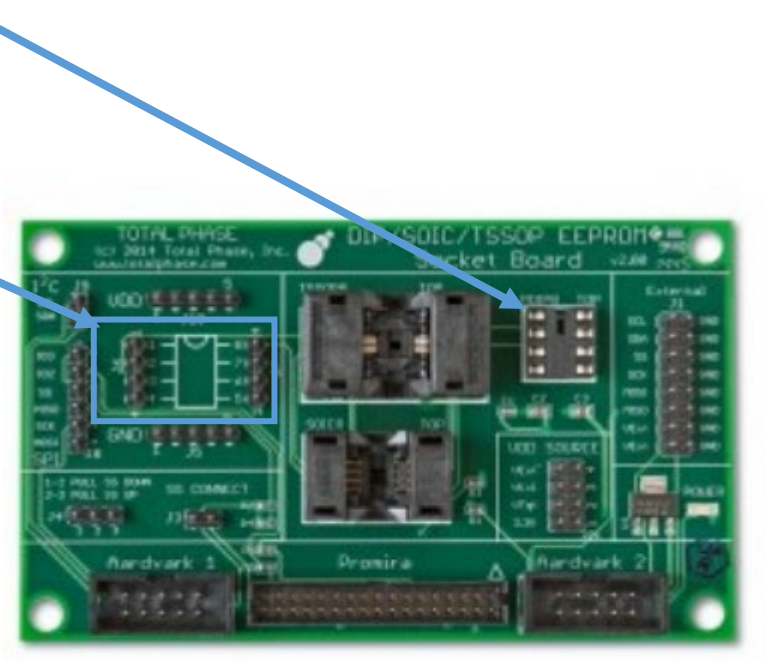
1. Hardware/Software Setup

- Hardware: https://www.totalphase.com/products/eeprom-devkit/
- EEPROM Device: https://www.digikey.com/product-detail/en/microchip-technology/24FC1025-I-P/24FC1025-I-P-ND/957537
- Software: https://www.totalphase.com/products/flash-center/

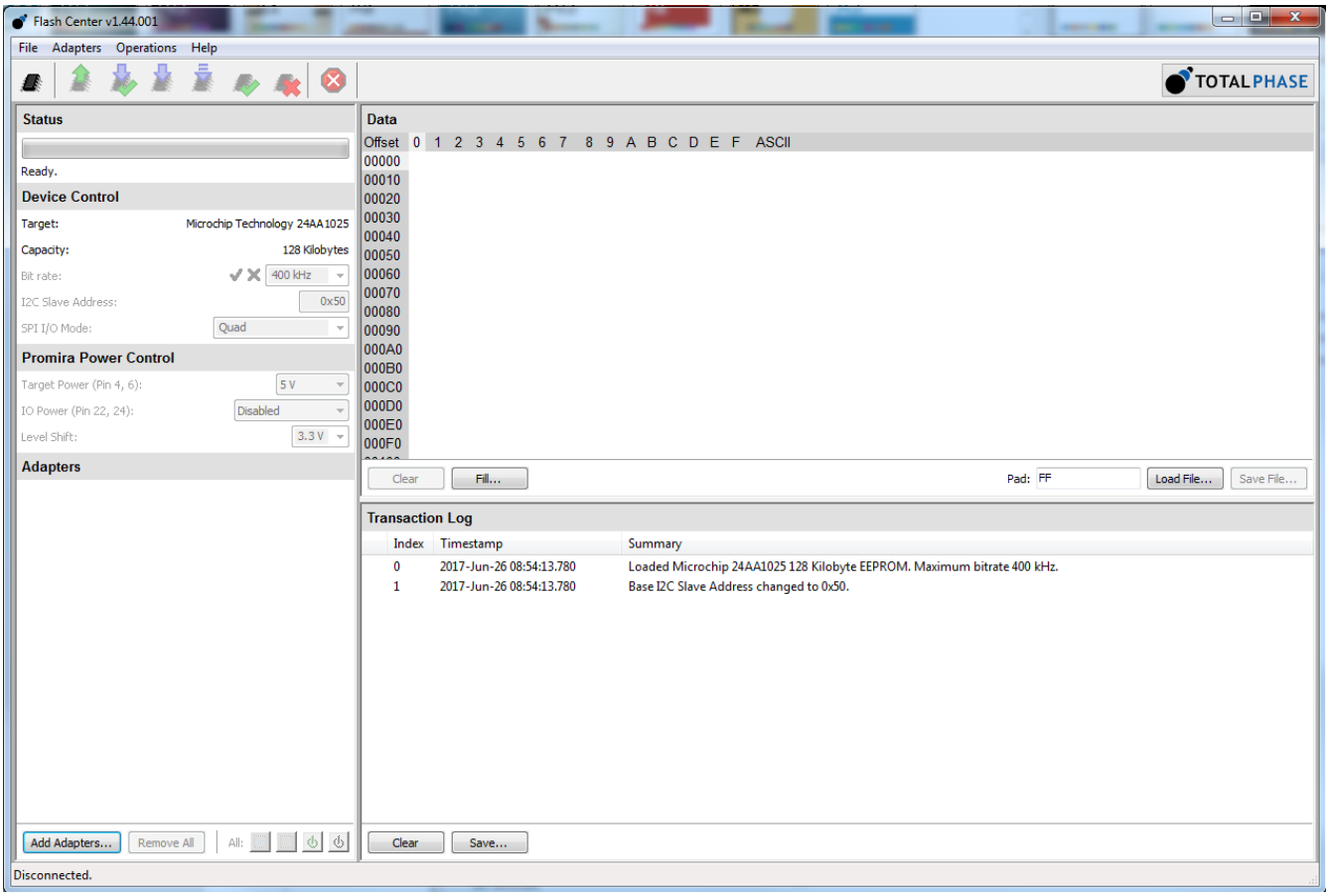
2. Total Phase EEPROM Board Setup

- Place EEPROM in PDIP8 Socket
- J4 place jumper on position 1-2
- J3 populate jumper
- VDD Source: set jumper to 3.3V
- Wire J6 as follows:
  - Pin 1 = Open
  - Pin 2 = Open
  - **Pin 3 = VDD**
  - Pin 4 = GND
  - Pin 5 = SDA
  - Pin 6 = SCLK
  - Pin 7 = GND
  - Pin 8 = VDD

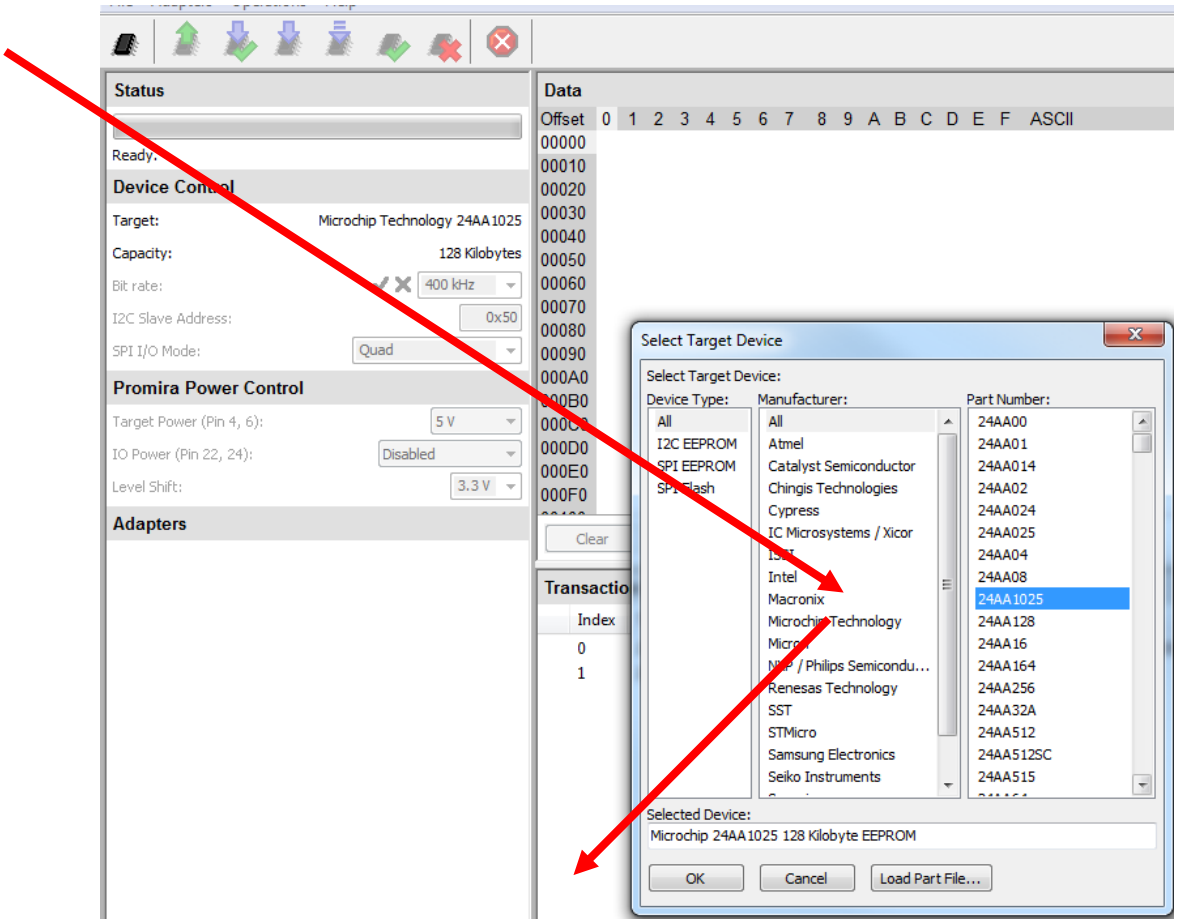


3. Software

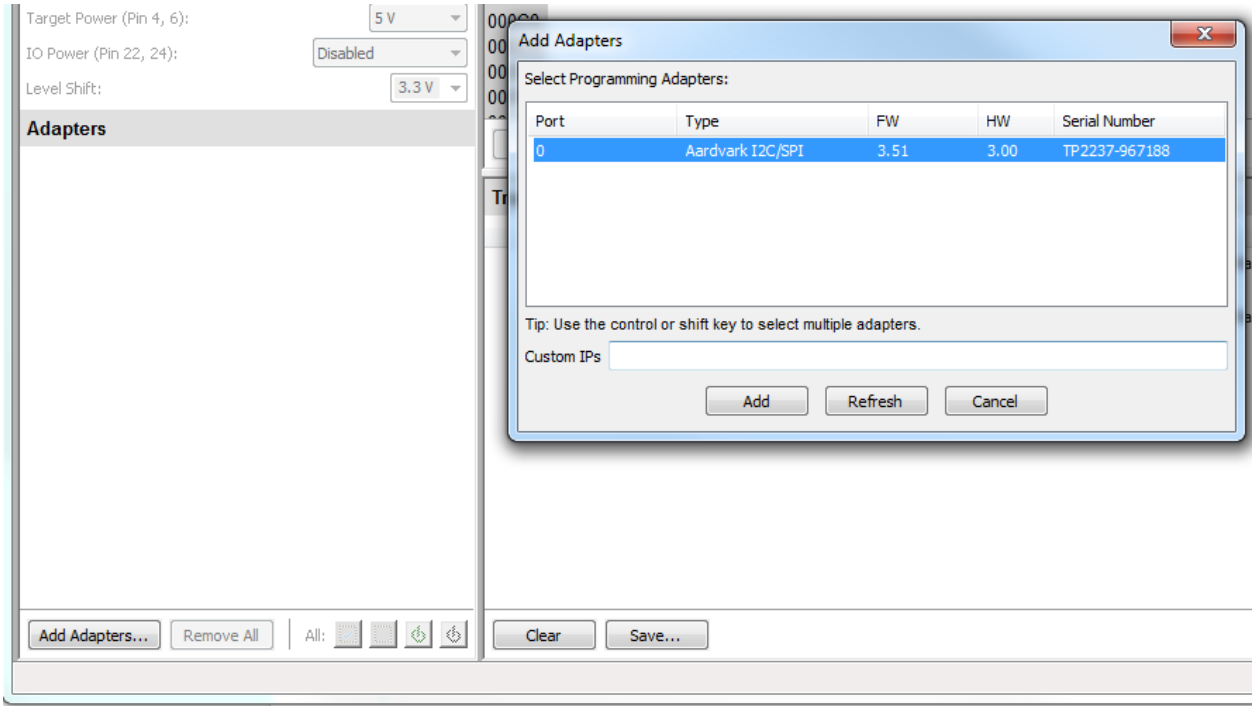
1. Start up the Flash Center GUI.



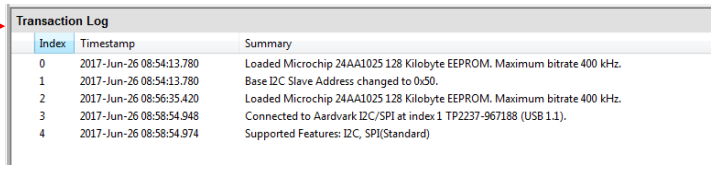
2. Select device 24AA1025 and press “OK”.



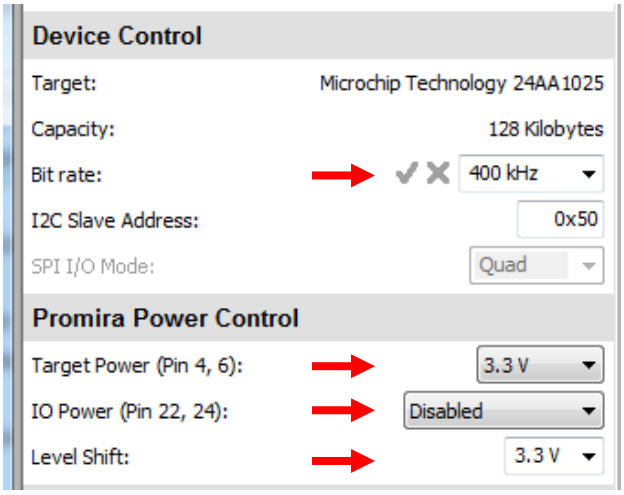
3. Press “Add Adapters”.
4. Select the Adapter.
5. Press “Add”.



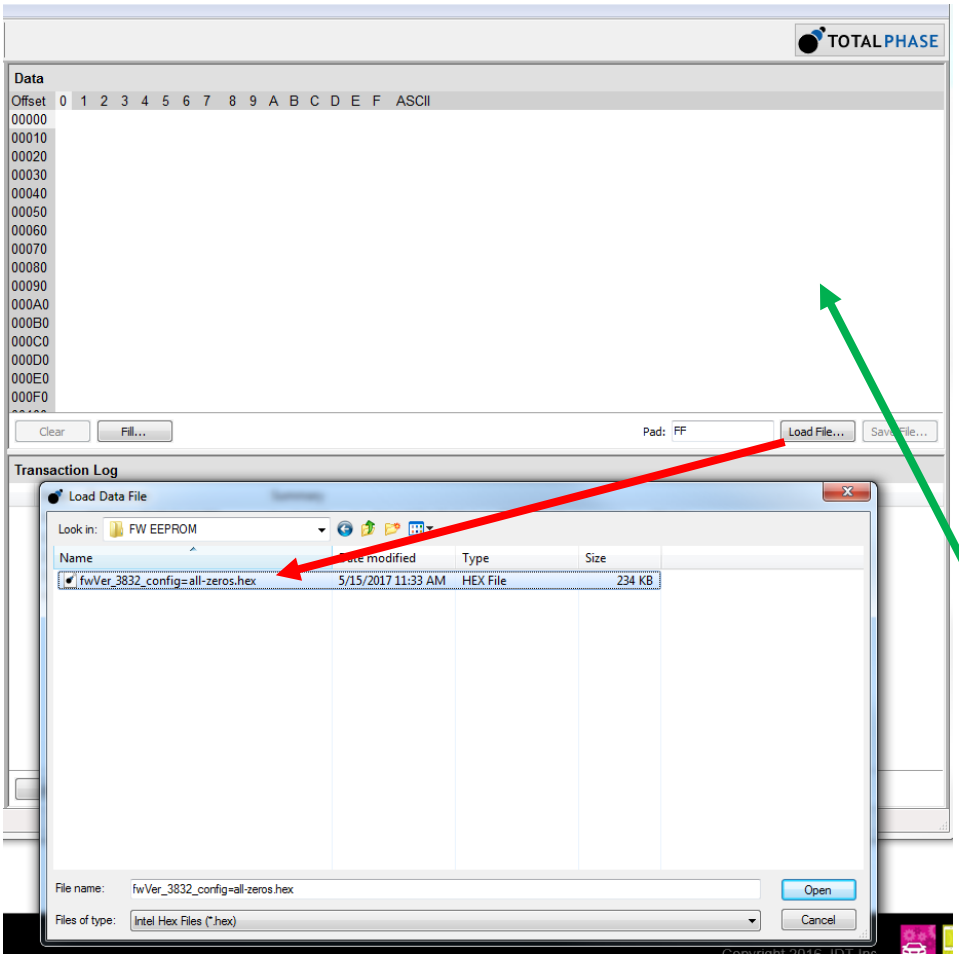
The transaction log should reflect the update:



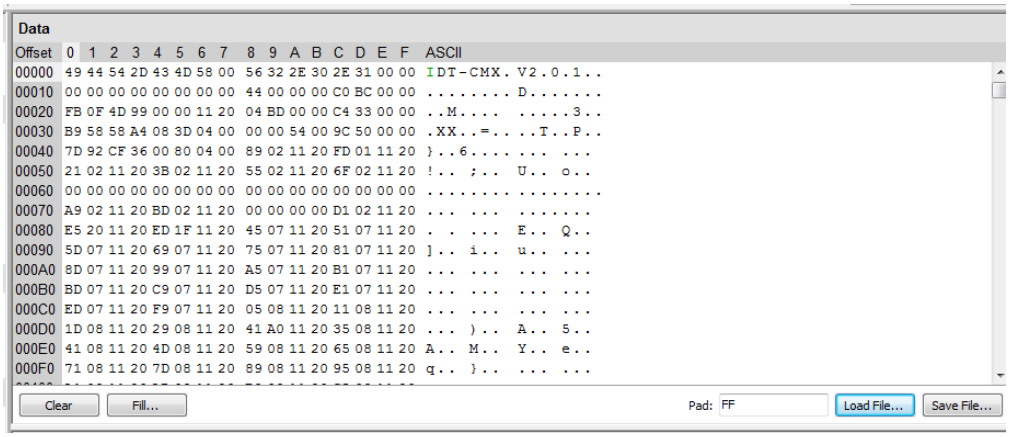
6. Set “Bit rate” = 400kHz.
7. Set “Target Power” = 3.3V.
8. Set “IO Power” = Disabled.
9. Set “Level Shift” = 3.3V.



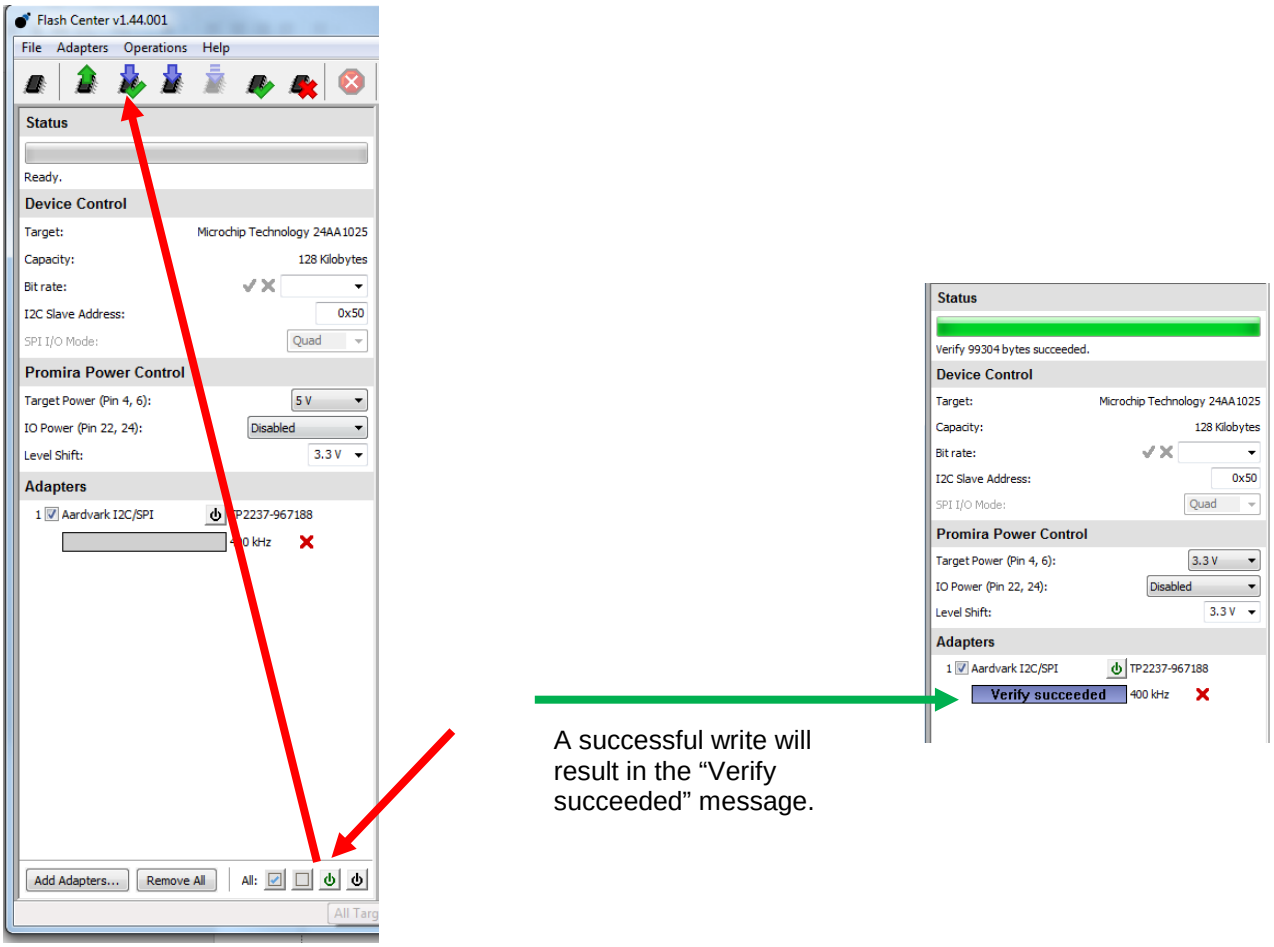
10. Press “Load File”, browse and locate the EEPROM hex image, then press “Open”.



The “Data” field should now be populated.

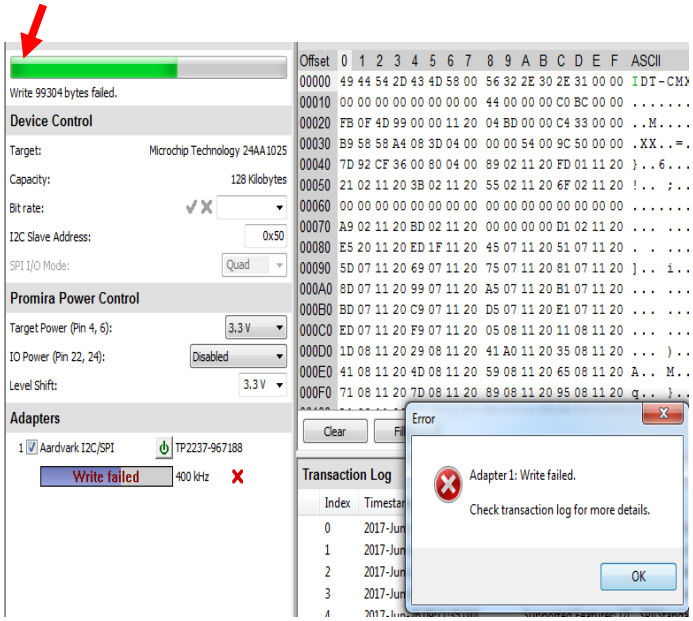


11. Press the “Power On” button and then “Program and Verify”.

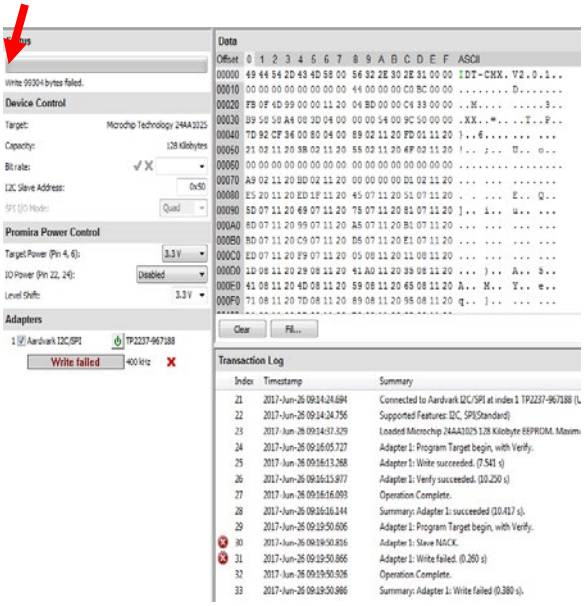


Often an “Adapter Write failed” message will appear.

If a partial write was successful, then attempt the programming again.



If none of the write was successful after a few attempts, then check the setup.



“Adapter Write failed” message.

If repeated attempts to program the device still fail, then set the <writeTime> parameter in your microchip_i2c_eeprom.xml XML file (located in the “flash-center-windows-i686-v1.43\parts\” directory) to 10000 or greater as shown below:

<writeTime>10000 </writeTime>

```
<device version="1.0">
    <deviceName> 24AA1025 </deviceName>
    <deviceDescription>
        Microchip 24AA1025 128 Kilobyte EEPROM
    </deviceDescription>
    <capacity> 128*1024 </capacity>
    <writeSize> 128 </writeSize>
    <writeTime>10000 </writeTime>
    <pageShift> 2 </pageShift>
</device>
```

4. Revision History

Revision	Date	Description
1.0	Dec.16.20	Initial release.

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