Manipulating EEPROM

There are many reasons you might want to save the contents of the AQ32Plus EEPROM configuration. The paragraphs below detail how to save a copy of the entire EEPROM, restore the entire EEPROM, and merge calibration data into a new EEPROM version. Saves you from having to redo the calibration if the EEPROM table is updated! I’ve only tested this with the Hercules terminal emulator.

Save a copy of the entire EEPROM contents to a file:

1. Use CLI command ‘U’ to access the EEPROM CLI.
2. Use EEPROM CLI 'c' command to write EEPROM contents to Hercules terminal screen
3. Copy/paste contents to a text editor
4. Insert a 'C" character in the 1st row 1st column of the EEPROM contents. This is the CLI command to read the EEPROM contents from a file
5. Save the file. I typically add the version and date in the filename, eeprom06\_20140704.txt for example.

Restoring entire EEPROM contents from a file:

1. Use the CLI command ‘U’ to access the EEPROM CLI.
2. Use EEPROM CLI 'c' command to write EEPROM contents to Hercules terminal screen
3. To load the EEPROM from this file, send the file from the Hercules terminal window
4. File is copied to AQ32, use CLI command 'W' to write contents to EEPROM

Restoring EEPROM sensor calibration data:

1. Note that this is only necessary if the EEPROM table mapping has been updated.
2. Before updating flight software, use CLI 'Uc' commands to write EEPROM contents to Hercules terminal screen
3. Copy/paste contents to a text editor
4. Save the file, eeprom06\_20140704.txt for example. This file has your calibration data in it.
5. Load the new flight software
6. Use CLI 'Uc' command to write EEPROM contents to Hercules terminal screen
7. Copy paste contents to a text editor
8. Save the file, eeprom07\_20140704.txt for example.
9. Copy the 1st 4 lines of eeprom06\_20140704.txt, minus the 1st 4 bytes of the first line.
10. Replace the same characters (1st 4 lines minus 1st 4 characters) in the eeprom07\_20140704.txt file using paste
11. Insert a 'C" character in the 1st row 1st column eeprom07\_20140704.txt
12. Save the file
13. To reload this file, enter the EEPROM CLI using ‘U’. Then send eeprom07\_20140704.txt from the Hercules terminal
14. File is copied to AQ32, use CLI command 'W' to write contents to EEPROM
15. Calibration data has been restored. The rest of your setup must be done manually, but the hard/time consuming part has been restored

It's easier than it sounds.....

Original Post at:

<http://aeroquad.com/showthread.php?7065-aq32Plus-Software&p=77061&viewfull=1#post77061>

Rev5 EEPROM containing calibration data copied to a file. Contains valid calibration data and the ‘C’ has been prefixed to the first line.

C0500000000B8D14000DB0341B0251CC3BAAC9C3AC10F9D3A63979A3A93D60145

D5490145363302450313413D0484453DBB60403D1121C2BF845AF33FFC406B41

83EE0743C844CEC290F5BEC30E1D2EC0C1A5B3BE2230403FE63AC34128953E42

92F590C10000000000000000000000000000000000000000000000000000803F

0000A040000000000000A04000000000000000400000803F0200000089C3E43A

89C3E43A1F42893ABC74133CA69B443B01000102030005040607C20132000000

00803B450080094500806D450080094500007A45000000000000803F32000000

0000FA4400803B4500007A45CDCC4C3D040000000000803F000080BF000080BF

000080BF000080BF0000803F000080BF0000803F000080BF0000803F0000803F

0000803F00000000000000000000000000000000000000000000000000000000

000000000000000000000000000000000000000000000000C2B8B23E00000000

C2B8B23E0000803F00007A430000C84200000000000000000000C84200000000

0000000000000000010000000000803F00007A430000C8420000000000000000

0000C842000000000000000000000000010000000000803F0000AF430000C842

00000000000000000000C842000000000000000000000000010000000000803F

000000400000000000000000000000000000003F000000000000000000000000

010100000000803F000000400000000000000000000000000000003F00000000

0000000000000000010100000000803F00004040000000000000000000000000

0000003F000000000000000000000000010100000000803F0000404000000000

00000000000000000000003F000000000000000000000000010000000000803F

000040400000000000000000000000000000003F000000000000000000000000

010000000000803F000000400000000000000000000000000000A04000000000

0000000000000000010000000000803F00004040000000000000000000000000

0000003F000000000000000000000000010000000000803F0000404000000000

00000000000000000000003F000000000000000000000000010000000000803F

000000400000000000000000000000000000A040000000000000000000000000

01000000030000005555F5400000000033335340CDCC4C406666464032000000

000100000000000016B85388

Rev6 default EEPROM containing no calibration data copied to a file.

0600000000000000000000000000000057E79C3A57E79C3A57E79C3A00000045

000000450000004551424A3D51424A3D51424A3D000000000000000000000000

0000000000000000000000000000000000000000000000000000000000000000

000000000000000000000000000000000000000000000000000000000000803F

0000A040000000000000A04000000000000000400000803F0201000089C3E43A

89C3E43A1F42893ABC74133CA69B443B01000102030005040607C20132000000

00803B450080094500806D450080094500007A45000000000000803F32000000

0000FA4400803B4500007A45CDCC4C3D040000000000803F000080BF000080BF

000080BF000080BF0000803F000080BF0000803F000080BF0000803F0000803F

0000803F00000000000000000000000000000000000000000000000000000000

000000000000000000000000000000000000000000000000C2B8B23E00000000

C2B8B23E0000803F00007A430000C84200000000000000000000C84200000000

0000000000000000010000000000803F00007A430000C8420000000000000000

0000C842000000000000000000000000010000000000803F0000AF430000C842

00000000000000000000C842000000000000000000000000010000000000803F

000000400000000000000000000000000000003F000000000000000000000000

010100000000803F000000400000000000000000000000000000003F00000000

0000000000000000010100000000803F00004040000000000000000000000000

0000003F000000000000000000000000010100000000803F0000404000000000

00000000000000000000003F000000000000000000000000010000000000803F

000040400000000000000000000000000000003F000000000000000000000000

010000000000803F000000400000000000000000000000000000A04000000000

0000000000000000010000000000803F00004040000000000000000000000000

0000003F000000000000000000000000010000000000803F0000404000000000

00000000000000000000003F000000000000000000000000010000000000803F

000000400000000000000000000000000000A040000000000000000000000000

01000000030000005555F5400000000033335340CDCC4C406666464032000000

0001000000000000EE165A78

Rev6 EEPROM edited to contain calibration data from Rev5. Now contains valid calibration data and the ‘C’ has been prefixed to the first line. Ready to reload!

C0600000000B8D14000DB0341B0251CC3BAAC9C3AC10F9D3A63979A3A93D60145

D5490145363302450313413D0484453DBB60403D1121C2BF845AF33FFC406B41

83EE0743C844CEC290F5BEC30E1D2EC0C1A5B3BE2230403FE63AC34128953E42

92F590C10000000000000000000000000000000000000000000000000000803F

0000A040000000000000A04000000000000000400000803F0201000089C3E43A

89C3E43A1F42893ABC74133CA69B443B01000102030005040607C20132000000

00803B450080094500806D450080094500007A45000000000000803F32000000

0000FA4400803B4500007A45CDCC4C3D040000000000803F000080BF000080BF

000080BF000080BF0000803F000080BF0000803F000080BF0000803F0000803F

0000803F00000000000000000000000000000000000000000000000000000000

000000000000000000000000000000000000000000000000C2B8B23E00000000

C2B8B23E0000803F00007A430000C84200000000000000000000C84200000000

0000000000000000010000000000803F00007A430000C8420000000000000000

0000C842000000000000000000000000010000000000803F0000AF430000C842

00000000000000000000C842000000000000000000000000010000000000803F

000000400000000000000000000000000000003F000000000000000000000000

010100000000803F000000400000000000000000000000000000003F00000000

0000000000000000010100000000803F00004040000000000000000000000000

0000003F000000000000000000000000010100000000803F0000404000000000

00000000000000000000003F000000000000000000000000010000000000803F

000040400000000000000000000000000000003F000000000000000000000000

010000000000803F000000400000000000000000000000000000A04000000000

0000000000000000010000000000803F00004040000000000000000000000000

0000003F000000000000000000000000010000000000803F0000404000000000

00000000000000000000003F000000000000000000000000010000000000803F

000000400000000000000000000000000000A040000000000000000000000000

01000000030000005555F5400000000033335340CDCC4C406666464032000000

0001000000000000EE165A78