

# Vega Memory Tool User Manual – DCX / DHX (Using QSPI)

## 1. Flash Binary:

### Steps:

1. Click on “Select Target”
2. In “Select Memory” drop down box, choose “QSPI Flash”
3. Click on “Search for QSPI Flash”
4. Choose the binary file using “Open File” Button or Drag and Drop Binary File.
5. Click on “Write Memory”.

[Note:] To erase EEPROM and Filesystem, and do fresh write, Click on “Erase Memory”, Select “OK”, and wait for Erase complete before doing “Write Memory”.

6. Select “OK”
7. When write completed successfully, click on “Release Target”

VegaMemoryTool v2.9.14

File Target Memory Tools Options Help

1. Select Target 5. Write Memory

Open File Save File Select Target Release Target Reset Target Write Memory Read Memory Erase Memory Verify Memory Blank/Backup Memory DCC Terminal

Select Memory: QSPI Flash (external) 2. Select, QSPI

7. Release Target. After write completes

File: W:\4\_12\_Build\_1\Source\cbs\target\4\_12\_Build\_1\_Test\_Binary\_with\_OsTrace\DCX81\_MOD\_USB.ITCM 4. Open / Drag n Drop, ITCM File Reload

Target Info

Vega Family: DCX81MF

Jtag-Box Name: USB <-> Serial Converter A

Jtag-Box Sn: DSPG-2ISYVQA

Jtag-Box Index: 0

QSPI Flash Configuration

Use Default QSPI Settings

QSPI CS: 0 QSPI Clock [MHz]: 64.5

Search for QSPI Flash

3. Search, QSPI

QSPI Flash Info

Name: MX25L16 C2 25 35

Start Address: 0x00000000

End Address: 0x00200000

Size: 2097152

Sectors: 512

Sector Size: 4096

00000000 00 00 00 00 00 00 00 00 .....  
00000008 00 00 00 00 00 00 00 00 .....  
00000010 00 00 00 00 00 00 00 00 .....  
00000018 00 00 00 00 00 00 00 00 .....  
00000020 00 00 00 00 00 00 00 00 .....  
00000028 00 00 00 00 00 00 00 00 .....  
00000030 00 00 00 00 00 00 00 00 .....  
00000038 00 00 00 00 00 00 00 00 .....  
00000040 00 00 00 00 00 00 00 00 .....  
00000048 00 00 00 00 00 00 00 00 .....  
00000050 00 00 00 00 00 00 00 00 .....  
00000058 00 00 00 00 00 00 00 00 .....  
00000060 00 00 00 00 00 00 00 00 .....  
00000068 00 00 00 00 00 00 00 00 .....  
00000070 00 00 00 00 00 00 00 00 .....  
00000078 00 00 00 00 00 00 00 00 .....  
00000080 00 00 00 00 00 00 00 00 .....  
00000088 00 00 00 00 00 00 00 00 .....  
00000090 00 00 00 00 00 00 00 00 .....  
00000098 00 00 00 00 00 00 00 00 .....  
000000A0 00 00 00 00 00 00 00 00 .....  
000000A8 00 00 00 00 00 00 00 00 .....  
000000B0 00 00 00 00 00 00 00 00 .....  
000000B8 00 00 00 00 00 00 00 00 .....  
000000C0 00 00 00 00 00 00 00 00 .....  
000000C8 00 00 00 00 00 00 00 00 .....  
000000D0 00 00 00 00 00 00 00 00 .....  
000000D8 00 00 00 00 00 00 00 00 .....  
000000E0 00 00 00 00 00 00 00 00 .....  
000000E8 00 00 00 00 00 00 00 00 .....  
000000F0 00 00 00 00 00 00 00 00 .....  
000000F8 00 00 00 00 11 BA 5E BA .....  
00000100 02 00 00 EB 5F 02 00 FA .....  
00000108 24 00 00 EB 4C 00 00 EA .....  
00000110 33 07 A0 E3 10 00 80 E2 .....  
00000118 00 10 90 E5 01 00 11 E3 .....  
00000120 1E FF 2F 11 00 00 4F E1 .....  
00000128 00 10 0F E1 01 25 A0 E3 .....  
00000130 03 29 82 E2 FF 5F 02 E9 .....  
00000138 38 20 42 E2 D1 F0 21 E3 .....  
00000140 00 00 4F E1 01 7F 02 E9 .....  
00000148 20 20 42 E2 D2 F0 21 E3 .....  
00000150 00 00 4F E1 01 60 02 E9 .....

Write Options

Physical Start Address: 0x00000000  Entire File

File Start Address: 0x00000000  Auto Erase

Number Of Bytes: 917504  Verify

6. Select, OK OK Cancel

HexEditor Configuration

Find and Replace

Clear Editor

Columns: 8 Auto

Address

0x00000000 Go

WORD

DWORD

Data

BYTE

WORD

DWORD

Show ASCII

File Size: 917504

## 2. Read from QSPI:

### Steps:

1. Click on "Select Target"
2. In "Select Memory" drop down box, choose "QSPI Flash"
3. Click on "Search for QSPI Flash"
4. Click on "Read Memory"
5. Select "OK"
6. When read completed successfully, click on "Save File". Choose location and file name to store binary file read from QSPI.

The screenshot displays the VegaMemoryTool v2.9.14 interface. The main window has a menu bar (File, Target, Memory, Tools, Options, Help) and a toolbar with icons for Open File, Save File, Select Target, Release Target, Reset Target, Write Memory, Read Memory, Erase Memory, Verify Memory, Benchmark Memory, and DCC Terminal. A "Select Memory:" dropdown menu is set to "QSPI Flash (external)".

On the left, the "Target Info" section shows Vega Family: DCK91MF, Jtag-Box Name: Dual RS232 A, Jtag-Box Sn: A, and Jtag-Box Index: 0. The "QSPI Flash Configuration" section has "Use Default QSPI Settings" checked, QSPI CS: 0, and QSPI Clock [Mhz]: 64.5. A "Search for QSPI Flash" button is highlighted with a red box and labeled "3. Search for QSPI". The "QSPI Flash Info" section shows Name: GD25LQ32, Start Address: 0x00000000, End Address: 0x00400000, Size: 4194304, Sectors: 1024, and Sector Size: 4096.

The main hex editor area displays a memory dump of FF FF FF FF FF FF FF FF followed by yyyyyyyyyy. A "Read Options" dialog box is open, showing Physical Start Address: 0x00000000, Number Of Bytes: 4194304, and "Entire Memory" checked. The "OK" button is highlighted with a red box and labeled "5. Select OK".

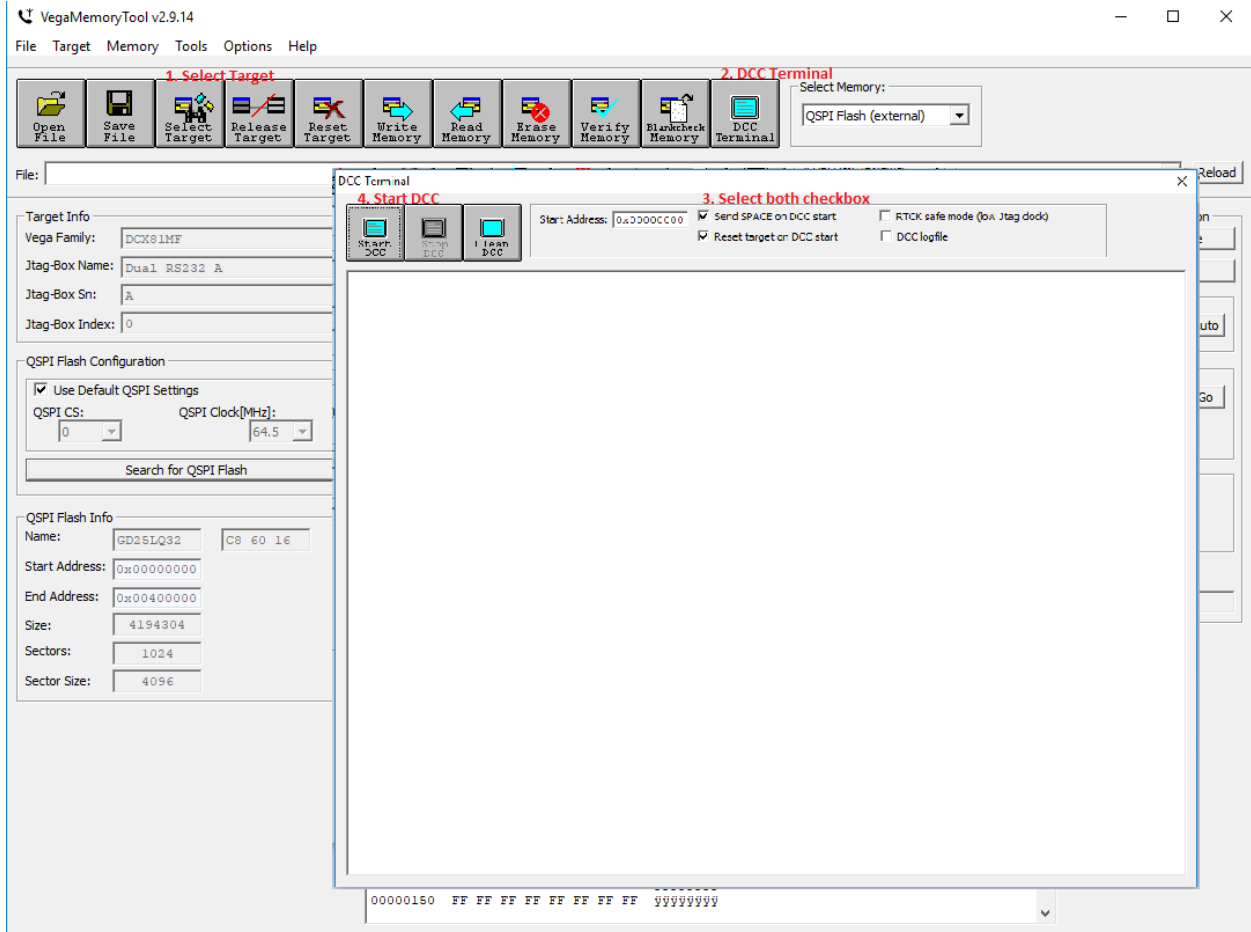
On the right, the "HexEditor Configuration" panel shows "Find and Replace", "Clear Editor", "Columns" set to 8, "Address" set to 0x00000000, "Data" set to BYTE, and "File Size" set to 4194304.

### 3. Using DCC terminal for log and Factory Reset Menu:

#### Steps:

1. Click on "Select Target"
2. Click on "DCC Terminal"
3. Select checkboxes "Send SPACE on DCC start" and "Reset" target on DCC start", to get factory reset menu, on boot.
4. Select "Start DCC"
5. To save DCC log file, select checkbox "DCC logfile" before step 4.

Note: To store log file, current directory of VegaMemoryTool.exe should have write permission. If not copy the executable to location which has permission and start VegaMemoryTool.



#### 4. Using Factory Reset Menu, to initialize Device EEPROM:

Steps:

1. Enter Factory Reset Menu using DCC Terminal of VegaMemoryTool

```
DCIN3 ADC VALUE:      0xFFFFFFFF = -1 [mV]
POR VALUE:           0xFFFFFFFF = -1 [mV]
```

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#### Factory Reset Menu

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```
a) Band Gap Calibration:    0x66
c) RX Tune:                 0x6E
d) IPEI:                    0000333333
e) EEPROM Access
k) Keyboard Emulator
o) Enable Online Test Menu
r) RAM Access
t) Test menu
q) Exit
```

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Please enter menu option: █

2. Enter option "e) EEPROM Access"

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#### EEPROM Menu

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```
a) Reset EEPROM
b) Dump EEPROM
c) Write byte to EEPROM
d) Write string to EEPROM
e) Read byte from EEPROM
t) EEPROM test
q) Exit
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Please enter menu option: █

- a. Enter option "a) Reset EEPROM" to reset / init EEPROM
- b. Enter option "q) Exit" to Factory Reset Menu

3. Enter option "c) RX Tune" to configure RXTUN / XTAL

Insert the GPIO (0 - 28) to use for measurement (99 for none):

Use < or > to adjust: 0x6E

Use < or > to adjust: 0x6D

Use < or > to adjust: 0x6C

Use < or > to adjust: 0x6B

- a. Press "Enter" to ignore GPIO
- b. Use '<' and '>' to adjust RXTUN / XTAL value.
- c. Press "Enter" when desired value reached.

4. Enter option "d) IPEI" to configure IPEI. If it is base, then same option is to configure RFPI.

```
Change IPEI[00] from 0x00 to : 01
Change IPEI[01] from 0x00 to : AB
Change IPEI[02] from 0x33 to : 02
Change IPEI[03] from 0x33 to : EF
Change IPEI[04] from 0x33 to : 40
```

- a. IPEI / RFPI is 5 bytes value, Press "Enter" after every one-byte hex value.
  - b. First nibble of first byte and last nibble of 5<sup>th</sup> byte should be 0.
5. For CMBS / CMHS / Scorpion Base / Handset, skip Step 6 and go to step 7.
6. For Configuring ULE device, Enter option "t) Test menu"

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**Test Menu**

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```
h) HAN
l) LMAC ATE Tests: inactive
q) Exit
```

- a. Enter option "h) HAN"

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**TestHan Menu**

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```
a) Dev Mngr Test
b) Misc
e) Eeprom wrapper
g) Device Auto Config
i) Device Auto Config 2
q) Exit
```

- i. Enter option "e) Eeprom wrapper"

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**Test Han Eeprom Menu**

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```
a) Read
b) Write
c) HAN Restore defaults
q) Back
```

1. Enter option "c) HAN Restore defaults"
  2. Enter option "q) Back"
- ii. Use option "g) Device Auto Config" or "i) Device Auto Config 2", to choose preset.

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Device Auto Config 2 - menu

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a) Not Available  
b) Not Available  
c) Not Available  
d) Not Available  
e) Not Available  
f) Not Available  
g) Not Available  
h) Not Available  
i) SimpleBtn DHAN-S  
j) Not Available  
l) Not Available  
m) Not Available  
n) Not Available  
o) ULE Voice Call  
p) ULE Voice Call CMND  
s) Host Extension  
t) Not available  
v) Expansion Board  
x) Not Available  
y) Not Available  
1) ADT Indoor Camera CMND  
2) ADT Keypad CMND  
r) Reset ULE block  
q) Exit

1. Example: Enter option "p) ULE Voice Call CMND", to configure preset for ULE voice call CMND device.
2. Enter Option "q) Exit"

iii. Enter Option "q) Exit"

b. Enter Option "q) Exit"  
Should be Back in Factory Reset Menu

7. Enter Option "a) Band Gap Calibration"

Please choose MuxInput[0-DCIN3, 1-DCIN3/2]

0

Please set resistor factor

2

Enter Supply Volt [mV]

3000

Running Calibration: Input supply 3000. Mux configered to 14

- a. Choose '0' for MuxInput"
  - b. Choose '2' for Resistor Factor. To skip logic for battery voltage check, enter '0' for Resistor Factor.
  - c. Enter Supply Volt as actual voltage supplied, ex 3000, for 3000mV.
8. Enter option "q) Exit"
9. On exit boots up in normal mode.