**VIA ETX-8X90 Module Specifications**

**Core:**
- 1.2GHz VIA Nano® X2 E-Series

**Chipset:**
- VIA VX900 MSP

**System Memory:**
- 1 x DDR3 800/1066 SODIMM slot
- Up to 4GB memory size

**BIOS:**
- AMI BIOS
- IMulti SRAM flash memory

**Operating System:**
- Microsoft Windows 7
- Microsoft Windows XP
- Microsoft Windows Embedded System 7
- Linux (Debian, Ubuntu)
- VXWorks 6.9

**Graphics and Video:**
- Integrated VIA C-9 HD DX9 3D/2D graphics with MPEG-2, WMV9, VC-1, and H.264 video decoding accelerator
- UMA, up to 512MB (BIOS setting)

**ETXDB1 Carrier Board Specifications**

**Model Name:**
- ETXDB1

**Rear I/O Connectors:**
- 1 x VGA port
- 1 x COM port
- 4 x USB 2.0 ports
- 1 x 10/100Mbps Ethernet port

**Onboard Connectors and Slots:**
- 1 x ISA slot (compatible with ISA ETX 3.02)
- 2 x EISA connectors
- 2 x PCI slots (compatible with PCI 2.3, 32bit/33MHz)
- 2 x LVDS connectors (compatible with TIA/ELA-644)
  - Pixel clock up to 85MHz
  - Supports panel resolution up to WXGA 1366x768
- 1 x Backlight connector
- 1 x ATX power connector
- 1 x RTC battery slot

**Onboard Pin Headers:**
- 1 x LPT pin header
- 1 x Keyboard & Mouse pin header
- 1 x COM pin header
- 1 x Front Panel pin header for HDD LED, Power LED, Switch and Speaker
- 1 x Front Audio pin header
- 1 x SMBus pin header
- 1 x PIC pin header
- 1 x SR pin header

**Onboard Jumpers:**
- 1 x Backlight and Panel power jumper

**Audio:**
- Supports two channel of storage. The IDE1 + SATA2 configuration is the default setting. The other configurations such as IDE1 + IDE2, option 1 (IDE1 + SATA1) or SATA1 + SATA2 (option 2) are manufacturing options. For more details, please contact your local sales representative.

**Input/Output:**
- VIA VX900 MSP
- Supports up to four USB 2.0 ports (on carrier board)
- Supports two mini USB 2.0 ports (on module)

**Expansion Base:**
- Supports IDE1, SATA1, ATA connect to the back of the board
- Supports two UARTS ports

**Super IO:**
- Finisht F1/8/16/16
- VDA
- Supports 2 SPI

**Mechanical and Environment:**
- CE, FCC and RoHS
- ETX Compliance
- ETX 3.0, compact module
- Dimensions:
  - 114mm x 95mm (4.45" x 3.7"
- Storage Temperature:
  - 0°C up to 60°C
- Operating Temperature:
  - 0°C up to 60°C
- Operating Humidity:
  - 0% ~ 95% (relative humidity, non-condensing)

**Board Storage Channel Configuration**

**Expansion and Storage Humidity:**
- 95% relative humidity

**Notes:**
- As default, SATA2 connector is enabled and SATA1 connector is disabled. The SATA1 connector is a manufacturing option.
- The SATA connector pin 7 default setting is GND. The +5V supports is a factory option.
- DCIN1, VGA1, LPC1 and SPI1 connectors are reserved for debugging purposes only, and not for production use.
**Mounting VIA ETX-8X90 onto the ETXDB1 carrier board**

**Step 1**
Align the four ETX connectors and mounting hole of the VIA ETX-8X90 module into the ETX connectors and mounting holes on the ETXDB1 carrier board.

**Step 2**
Gently press down the VIA ETX-8X90 module until the four ETX connectors have been fully inserted into the ETX connectors on the ETXDB1 carrier board.

**Step 3**
Align the notch on the memory module with its counterpart on the SODIMM slot, and then insert the memory module at a 30° angle.

**Step 4**
Push down until the memory module snaps into place. The memory slot has two locking mechanisms that will click once the memory module has been fully inserted.

**Step 5**
Flip over the heatsink/heat spreader. Remove the plastic cover of the thermal pad of the memory and chipset.

**Step 6**
Apply the thermal grease/paste onto the surface of the CPU. Then align the heatsink/heat spreader over the mounting holes on the VIA ETX-8X90 module.

**Step 7**
Gently install the heatsink/heat spreader. Make sure to install it in proper orientation. The thermal pads underneath the heatsink/heat spreader should position above the memory and chipset respectively.

**Step 8**
Connect the CPU fan jack to the fan connector (FAN1).

**Step 9**
Secure the VIA ETX-8X90 module with the heatsink/heat spreader by screwing and tightening four M2.5*12 screws in sequence (torque is 2.5~2.6 kgfcm).

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**VIA ETX-8X90 Module Switch & Jumper**

**Clear CMOS Jumper**

- **Pin 1 (CN9)**<br>Clear CMOS setting<br>-**Pin 2 (CN10)**<br>CMOS Operation (default)<br>-**Pin 3 (CN11)**<br>Smart<br>-**Pin 4 (CN12)**<br>Smart

**HDD Selector Switch**

- **Switch 1**<br>IDE1 + SATA2 HDD setting<br>-**Switch 2**<br>IDE1 and BK2 HDD slot setting<br>-**Switch 3**<br>IDE1 and BK2 HDD slot setting<br>-**Switch 4**<br>IDE1 HDD not install and IDE2 HDD install<br>-**Switch 5**<br>IDE1 HDD install and IDE2 HDD not install<br>-**Switch 6**<br>IDE1 and IDE2 HDD not install<br>-**Switch 7**<br>IDE1 + IDE2 HDD setting<br>-**Switch 8**<br>IDE1 HDD not install On N/A<br>-**Switch 9**<br>IDE1 HDD install Off N/A

**Notes:**
1. The IDE1 + SATA2 configuration is the default setting.
2. The IDE1 + IDE2 (option 1) or SATA1 + SATA2 (option 2) configurations are manufacturing options.
3. The HDD Selector Switch (DIPSW1) is not applicable to SATA HDD configuration.

**ETXDB1 Carrier board Pin headers Definition and Jumpers Settings**

**Front Panel Header**

- **Pin 1**<br>Power LED+<br>-**Pin 2**<br>+5V<br>-**Pin 3**<br>Power LED+<br>-**Pin 4**<br>HDD LED-<br>-**Pin 5**<br>Power LED-<br>-**Pin 6**<br>Power button<br>-**Pin 7**<br>+5V<br>-**Pin 8**<br>GND<br>-**Pin 9**<br>NC<br>-**Pin 10**<br>Reset<br>-**Pin 11**<br>NC<br>-**Pin 12**<br>GND<br>-**Pin 13**<br>Speaker-<br>-**Pin 14**<br>+5V<br>-**Pin 15**<br>Key<br>-**Pin 16**<br>NC

**Front Audio Pin Header**

- **Pin 1**<br>AUXAR<br>-**Pin 2**<br>AGND<br>-**Pin 3**<br>AUXAL<br>-**Pin 4**<br>MICIN<br>-**Pin 5**<br>SNDR<br>-**Pin 6**<br>NC<br>-**Pin 7**<br>SNDL<br>-**Pin 8**<br>AGND

**LPT Pin Header**

- **Pin 1**<br>+5V<br>-**Pin 2**<br>Key<br>-**Pin 3**<br>IRRX<br>-**Pin 4**<br>GND<br>-**Pin 5**<br>IRTX

**COM Pin Header**

- **Pin 1**<br>+3V<br>-**Pin 2**<br>CLK<br>-**Pin 3**<br>DAT<br>-**Pin 4**<br>GND

**SMBus Pin Header**

- **Pin 1**<br>+5V /+3V (optional)<br>-**Pin 2**<br>CLK<br>-**Pin 3**<br>DAT<br>-**Pin 4**<br>GND

**I²C Pin Header**

- **Pin 1**<br>Short<br>-**Pin 2**<br>Open<br>-**Pin 3**<br>Short<br>-**Pin 4**<br>Open

**VIA ETX-8X90 Module Switch & Jumper**

- **Pin 1**<br>+5VSUS<br>-**Pin 2**<br>+5VSUS<br>-**Pin 3**<br>NC<br>-**Pin 4**<br>Key<br>-**Pin 5**<br>GND<br>-**Pin 6**<br>GND<br>-**Pin 7**<br>KB_DT<br>-**Pin 8**<br>MS_DT<br>-**Pin 9**<br>KB_CK<br>-**Pin 10**<br>MS_CK

**Backlight and Panel Power Jumper**

- **Pin 1**<br>Short<br>-**Pin 2**<br>Open

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