

COM Express Module

VIA COMe-8X90

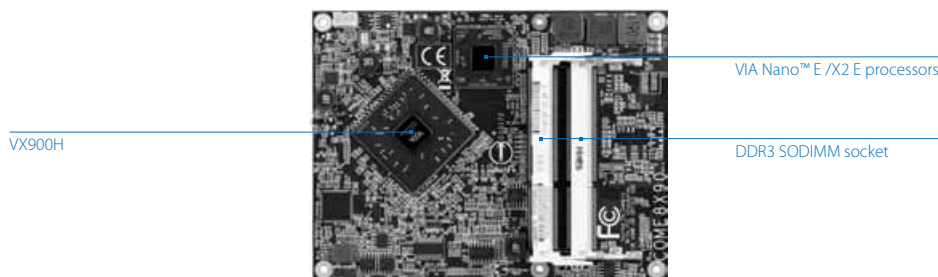
COM Express Module, Type 6, Basic Form Factor with Nano™ X2 E/Nano™ E, VGA, HDMI, LVDS, Display Port, USB, GigaLAN

Features

- VIA 64-bit Nano™ E /X2 E processors
- Supports two DDR3 SODIMM sockets, up to 8GB memory size
- Integrated VIA Chrome9™ HD DX9 3D/2D graphics with VC1, MPEG-2, WMV9 and H.264 decoding acceleration
- Features one 4-lane PCIe and one 1-lane PCIe expansion
- Supports two SATA ports (3Gbps)
- Display interface in CRT, 18/24-bit single-channel LVDS panel, one DP port and one HDMI port
- Supports one Gigabit Ethernet on module
- Supports four USB 2.0 ports and four USB 3.0 ports



Board Placement



Specifications

Model Name		COMe-8X90	
Core	Processor	1.3GHz @1.6GHz VIA Nano™ E 1.2GHz VIA Nano™ X2 E	
	Chipset	VIA VX900H Media System Processor	
	System Memory	2 x DDR3 1066 SODIMM sockets Up to 8GB memory size	
	BIOS	AMI BIOS, SPI 4/8Mbit flash memory	
	Operating System	Windows 7, Windows XP, Windows XP Embedded, Windows Embedded Standard 7, Win CE 6.0, Linux	
	Hardware Monitoring	CPU temperature reading CPU fan speed reading System voltage monitoring	
	Watch Dog Timer	Software programmable	
	Expansion Buses	1 x PCIe Gen2 x 4 1 x PCIe Gen2 x 1	
	Video	Chipset	Integrated VIA Chrome9™ HD DX9 3D/2D graphics with VC1, MPEG-2, WMV9 and H.264 decoding acceleration
		CRT Interface	Analog VGA port supports up to 2048 x 1536 resolution
LVDS Interface		LVDS channel supports single-channel 18-bit or 24-bit LVDS panel	
HDMI Interface		1 x HDMI port	
DisplayPort Interface		1 x Display port	
Expansion Buses		1 x Digital video output port for external HDMI/LVDS/DVI transmitter or TV encoder 1 x Video capture port for transport stream input or 8/16-bit CCIR656/601 input	
Ethernet		Chipset VIA VT6130 Gigabit Ethernet controller	
IO	USB	4 x USB 3.0 ports by VLI VL800 USB 3.0 host controller 4 x USB 2.0 ports	
	SATA	2 x SATA II ports	
	Audio	1 x HD audio digital interface	
	LAN	1 x LAN port	
	Serial	2 x Serial ports with TX and RX signals	
	Expansion Buses	1 x System Management Bus (SMBus) interface 1 x I2C bus 1 x GPIO interface with 4 INs and 4 OUTs (shared with SDIO) 1 x Low Pin Count (LPC) bus 1 x SPI	
		Supports ExpressCard, speaker out, reset function, thermal protection, suspend/wake signals, power button, power good and fan control signals	
	Mechanical & Environment	COM Express Compliance COM Express™ Type 6, basic module	
	Dimension 125 mm x 95 mm (4.92" x 3.73")		
	Operating Temperature 0°C ~ 60°C		
	Storage Temperature -40°C ~ 70°C		
	Operating Humidity 0% ~ 95% (relative humidity; non-condensing)		

Base Board (COMEDB2)



* The base board is only for evaluation purpose.

Specifications

Model name	COMEDB2
Audio	VIA VT1828S High Definition Audio Codec
Super I/O	VIA VT1211 LPC super I/O
BIOS	AMI BIOS 4/8 Mbit LPC flash BIOS, PLCC 32 pin or SPI BIOS
COM Express Module Type	Supports COM Express™ Type 6
Onboard Connectors	1 x LVDS connector 1 x Inverter connector 1 x CD In w/housing connector 1 x SPDIF w/housing connector 1 x ATX power connector 1 x AUX power connector 2 x FAN with housing connectors for CPU FAN & System FAN 2 x SATA connectors
Onboard Slots	1 x PCIe x16 (supports 4-lane) slot for PEG 2 x PCIe x1 slots 1 x Mini PCIe socket 1 x Reversed PCIe x4 slot for DVP port 1 x Reserved PCIe x4 slot for VCP port
Onboard Pin Headers	1 x FIR pin header 1 x COM2 pin header, adds +5V/+12V power select option on RI pin 1 x LPT pin header 1 x SPI pin header 1 x LPC pin header 1 x DIO1 pin header, shared with SDIO connector 1 x DIO2 pin header (from VIA VT1211) 1 x SMBUS pin header 1 x I2C pin header 2 x USB 2.0 pin headers for USB 2.0 port 0 ~ 3 1 x Clear CMOS/Password pin header 1 x Inverter Voltage Select pin header 1 x Panel Power Select pin header 1 x Front LAN LED pin header 1 x Front Audio pin header 2 x BIOS Type Select pin headers for select LPC/SPI BIOS 2 x BIOS Select pin headers for select Module/Carrier board BIOS 1 x Front Panel pin header for HDD LED, Power LED, Switch and Speaker
Onboard Front I/O Connectors	1 x SD Card connector, shared with DIO1 pin header
Onboard Rear I/O Connectors	1 x VGA D-Sub connector with COM D-Sub connector, COM port adds +5V/+12V power select option on RI pin 1 x DisplayPort connector 1 x HDMI connector 1 x Stack type 2 ports USB 3.0 connector with Gb Ethernet RJ45 connector 1 x Stack type 2 ports USB 3.0 connector 1 x Stack type 6 ports Audio I/O connector (supports multi-channel audio outputs)
Switch	1 x Power Button switch 1 x Reset switch

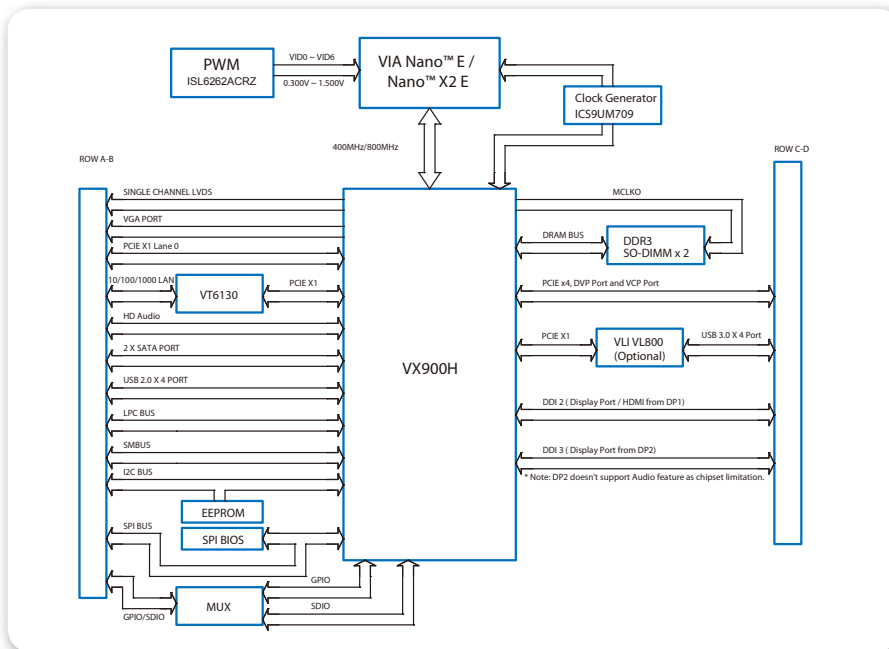
Specifications

Model name	COMEDB2
Form Factor & Dimension	Micro-ATX Dimension: 244 mm x 244 mm (9.6" x 9.6") 6 Layers
Operating Temperature	0 °C ~ 60°C
Operating Humidity	95% relative humidity
Storage Temperature	-40°C ~ 70°C
Storage Humidity	95% relative humidity
Operating System	Windows 7, Windows XP, Windows XP Embedded, Windows Embedded Standard 7, Win CE6.0, Linux

Ordering Information

Model Name	CPU Frequency	Description
COMe-8X90	1.3GHz @1.6GHz VIA Nano™ E	COM Express Module with 1.3GHz @1.6GHz Nano™ E CPU, VGA, HDMI, LVDS, Display Port, 4 x USB 2.0, 4 x USB 3.0, GigaLAN
	1.2GHz VIA Nano™ X2 E	COM Express Module with 1.2GHz Nano™ X2 E CPU, VGA, HDMI, LVDS, Display Port, 4 x USB 2.0, 4 x USB 3.0, GigaLAN
COMEDB2	N/A	COMe-8X90 Evaluation Base Board
10GV512W100A2		COMe-8X90 Starter Kit
10GV512W200A2		COMe-8X90 Starter Kit with Panel

Block Diagram



Packing List (Starter Kit)

Item for 10GV512W100A2
1 x COMe-8X90 COM Express module board
1 x COMEDB2 COM Express carrier board
1 x SATA cable
1 x Dual-port USB 2.0 cable
1 x COM cable
1 x LPT cable
1 x Quick guide
1 x Driver CD
Item for 10GV512W200A2
1 x COMe-8X90 COM Express module board
1 x COMEDB2 COM Express carrier board
1 x SATA cable
1 x Dual-port USB 2.0 cable
1 x COM cable
1 x LPT cable
1 x Quick guide
1 x Driver CD
1 x LVDS cable
1 x Inverter cable
1 x 12.1" LCM