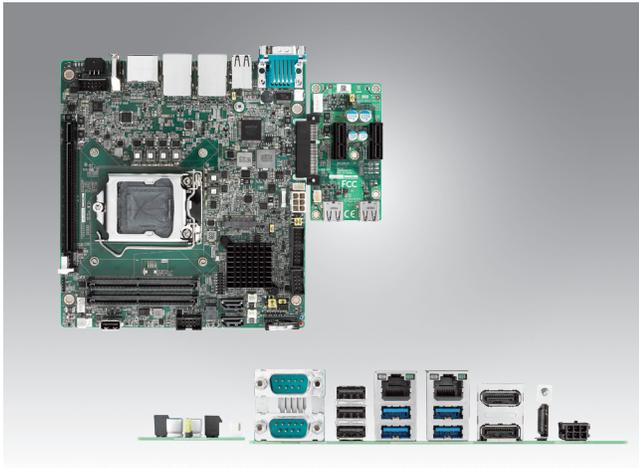# DPX-M270

Intel® 8th & 9th Generation Core™-i7/i5/i3 Embedded Multi-media Gaming Board

Features

- Intel® 8th/9th Generation Core™-i7/i5/i3 CPUs 8,6,4,2 core
- Two 260-pin SO-DIMM up to 32GB DDR4 2666 MHz SDRAM
- Supports 3 display outputs (2x DP++, HDMI)
- PCIe x16 Gen 3.0 graphics card slot
- Modular Expansion Port - Edge connector
- Storage 2 x SATA with 1 x M.2
- Secureboot support
- RS232, ccTalk, TTL, ID003, I2C, intrusion and DIs

Introduction

The DPX-M270 is a versatile gaming platform based on Intel's 8th and 9th generation Core-i processors. The board provides a high performance multi-media engine optimized to the needs of gaming OEMs. The modular expansion architecture allows cost effective modules to be added for the specific application, adding features such as I/O, COMs, security, and specialized interfaces. The DPX-M270 is also available in two enclosures with optional power supplies and graphics card expansion.

Specifications

Processor System	CPU/chipset	Intel® 8th & 9th Gen. Core™-i7/i5/i3 CPUs 8,6,4,2 core up to 3.2(4.6) GHz, Celeron, Pentium Q370 or H310 chipset Long lifecycle 5-7 years availability
	TDP	Up to 65W
	BIOS	AMI UEFI SPI with Secureboot support
Expansion	PCIe x16	Gen3, 16 GB/s per direction, 1 slot
	Modular	Modular Expansion bus: Two full PCI-e x1 gen 1.0 lanes and two USB2.0 ports. (one USB2.0 with H310) PCIe x4 form factor 'golden finger' Five digital inputs (logged)
Memory	Technology	Dual Channel DDR4 2666 MHz SDRAM (Non-ECC)
	Max. Capacity	32 GB/ 16 GB per SO-DIMM
	Socket	2 x 260 PIN DDR4 SO-DIMM
Graphics	Controller	Intel UHD Graphics 630 / Intel HD Graphics 615. DirectX12, OpenGL 4.5
	VRAM	Shared system memory, Half of total RAM installed (Windows)
	Display Port	Two DP++ ports v1.2 supporting 4K displays, 4096 x 2304 @ 60 Hz
	HDMI	One HDMI v1.4 max 4096 x 2160 @24 Hz (Any 2 from 3 with H310)
Ethernet	Interface	10/100/1000 Mbps
	Controller	Two GbE LAN (PXE boot supported, BIOS Enable/Disable selectable)
	Connector	2 x RJ-45
SATA	Max Data Rate	600 MB/s (SATA 3.0)
	SATA	2 x SATA 3.0
M.2 (NVME)	M.2	1 x M.2 (B-Key) for SSD 2280 size. Up to 16GB/s

IO Panel	DP/DP++	1 x dual connector (2 ports)
	HDMI	1 x single connector (H310 provides 2 of 3 from DP and HDMI ports)
	LAN/USB	2 x USB/LAN towers containing 2 x Gigabit LAN & 4 x USB3.0/2.0 (BIOS – can disable bootable USB devices)
	USB	3 x USB 2.0 (2x with H310)
	Audio	6-Way header (Line-out (FL, FR, LFE), SPDIF_Out). Lo-Z driver, > 32 Ohm load on FL/FR)
	Serial	2 x DB-9 RS-232 full signal, supports 9 bit data) COM1 & COM2
Internal Connector	USB	1 x vertical USB 2.0 Type A, 4 x USB2.0 on two 0.1" Connectors (2 USB 2.0 with H310)
	Serial	2 x 8 pin 0.1" COM connector: 4 serial ports; COM3 – RS232 Tx/Rx/CCTalk, COM4 – TTL/RS232/ID003 Tx/Rx, COM5 – RS232, COM6 - RS232 Tx/Rx
	SATA	2 x SATA 3.0 with locking slots, 2x SATA power 2 pin header (supports two devices, 3.3V/5V options at the time of manufacture). SATA ports have pin 7 +5V/0V jumper selectable
	M.2	1 x M.2 supporting up to M2280 form factor devices
	LPC	1 x pin header LPC bus for PORT80 debug
	Audio	Mic In, Line-In, and Line-out (lo-Z driver, > 32 Ohm load), SPDIF In, SPDIF Out
	BIOS	1 x WSOIC clamshell
	DC Power	12V DC only. Remote (cabinet mounted) reset button header
	CPU, Sys fans	2 PWM controlled 'smart fan' headers
	Battery	CR2032 battery holder with off board solder hoops for an external battery connection

See overleaf for continued specification

Specifications Cont.

Embedded Microcontroller	PuC_Lite	2 x I²C ports (one password protected); 6 x Intrusion monitoring (Intrusion 1-5 individually re-configurable as digital inputs); Event logging; System health monitoring; Unique serial number. Battery monitoring. Runtime counters. Accessible using the WinPuC protocol; Optional protected precision RTC (+/- 2.5mins per year)
Watchdog Timer	Output	System reset, Programmable 1 ~ 255 sec/min
Security	TPM (option)	Infineon SLB9665 (soldered)
	BIOS	BIOS customizations, write protect, Secureboot

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Power Requirements	Input power	12V$_{DC}$ single rail
Environment	Temperature	0 ~ 60 °C Non-Operating: -40 ~ 85 °C (-40 ~ 185 °F)
Software	OS	Windows 10, Linux
Physical Characteristics	Dimensions	Extended "Mini-ITX" - 170 x 185 mm (6.69" x 7.28"). Standard width, mounting holes, I/O plate and slot locations. Extended length

Benefits

Good integrated graphics and PCI-E x16 for discrete graphics card
Single integrated solution
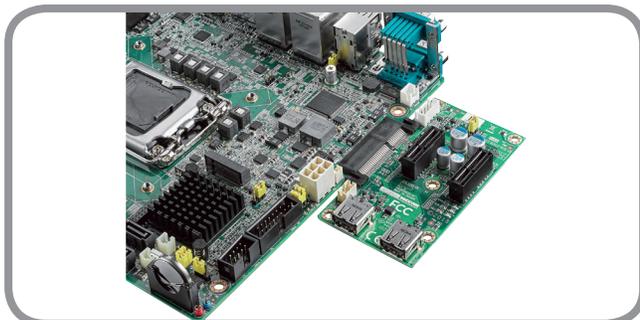Designed for the Gaming Industry
Low power
Long lifecycle

Optional Accessories

M.2 modules, SATA DOM, SSD storage devices
Full system Chassis
Range of PCI-E graphics cards
Various I/O modules
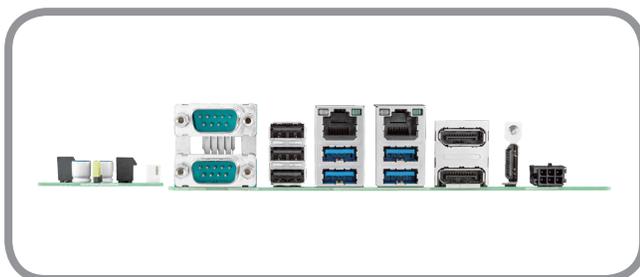
Software Products

SecureBoot SDK
DPX Connector SDK
DPX Diagnostics
DPX SAS Engine

OEM Customization and Product Development

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Front I/O

Modular Expansion

System Products

DPX-M1270 Gaming System

DPX-M2270 w/ full height graphics card

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