

DPX[®]-S460

AMD Ryzen™ Embedded 8000 Series Gaming Platform



Features

- Very high-performance AMD multi-core SoC's
- 6 and 8 Core SoC's up to 45W
- Four independent monitors
- PCIe x16 graphics card slot
- Comprehensive gaming features
- 12V DC single input or ATX power
- Fully featured driver API for IO and security
- Hardware & Software backwards and forwards compatible



Introduction

The DPX[®]-S460 is the latest addition to the proven DPX-S series of integrated gaming platforms. Based on the AMD Ryzen™ Embedded 8000 scalable platform, the DPX-S460 uses latest high-performance Zen4 multi-core technology combined with RDNA3 graphics engine and XDNA NPU for AI applications. Four independent monitors are supported via DisplayPort 1.4 DP++ ports. For higher performance stunning games the standard PCI-Express x16 graphics card slot allows the S460 to support today's latest graphics cards. A full set of I/O, COMs and security features designed specifically for gaming devices is also included making the DPX-S460 an ideal performance integrated platform for many gaming and amusement applications.

Specifications

System	AMD Ryzen Embedded 8000 SoC's
	Long life cycle 7 years availability
Video (Integrated)	RAM up to DDR5-5600 MT/s, ECC & Non-ECC, 2 SODIMM up to 64GB
	Integrated AMD RDNA3 graphics engine
Video (Expansion)	Four monitor support from SoC
	Four DP++ interface support DisplayPort v1.4a
NPU	Direct X12, OpenGL 4.6, Open CL 2.2 support
	PCIe x16 Gen.4 graphics expansion slot (x8 lanes). Simultaneous operation of integrated and PCIe card graphics
Security	TPM security device on board
	Intrusion switch inputs (8 dedicated)
Software	BIOS customization
	iButton [®] ports for iButton / iButton reader
SoC	Optional Precision secure Real Time Clock
	Protected I ² C port
Power Fail Detect	Edge-to-edge drivers and Software API/SDK.
	Code portability through consistent API with other Advantech gaming boards
Memory	Range of Advantech software products for gaming
	Ryzen 7H Pro: 8 Core.3.8-5.1GHz (45W)
BIOS	Ryzen 5U Pro: 6 Core.3.5-4.9GHz (30W)
	2 x SoDIMM socket up to 64GB total (32GB each)
Watchdog Timer	DDR5 5600 MT/s, ECC and Non-ECC
	AMI APTIO UEFI BIOS
EEPROM	BIOS can be fully write protected
	BIOS module with expansion ROM support

LAN	2 x Ethernet Gigabit LAN
	Full duplex operation
Storage	Wake-On-LAN capability
	Dual SATA support via M.2 adapter.
Ports	2x M.2 'M-Key' form factor up to 2242 size module, 4 lane PCIe interface. NVME support.
	5 x RS232 (2 x fully featured, 3 x Tx/Rx)
iButton/GPIO	2 x CCTalk/RS232
	1 x TTL/RS232
Discrete I/O	1 x ID003/TTL/RS232
	1 x RS485/RS232
Audio (line level)	10 x USB (8 x USB 2.0, 2 x USB 3.2/2.0)
	2 x I ² C ports (one protected)
MRAM (NVRAM)	Audio: Line out 5.1 channels, SPDIF, Headphone port, MIC, Line In
	Two Bi-Directional GPIO ports for iButton, special purpose devices, security modules
TPM	32 ESD protected inputs
	32 OC Outputs (500mA, 50V)
Watchdog Timer	Of which 8 I/O ports can be configured as meter outputs with disconnect detect
	HD 5.1 audio (line level)
EEPROM	Front I/O panel jack connectors for: FL, FR, CE, LFE, RL, RR. On-board header for: Line In L & R, MIC In, SPDIF Out, Headphone port with Jack detect
	8MB fast battery backed SRAM
Asset Tag	Battery state software readable
	TCPA/TPM 2.0 compliant security device on board
EEPROM	Programmable time-out
	32kByte user EEPROM (option for larger)
Asset Tag	Unique ID, API readable serial number

Specifications Cont.

Intrusion Detection	8x Intrusion detection input lines
	Operates with and without system active
	Logs date/time of last 254 events
	EEPROM backup for 10 years retention
System Health Monitoring	Run-time accessible voltage and temperature measurements.
	PWM fan control for CPU and system fan.
	Configurable thermal response.
Embedded Controller	Uptime counters for licensing, event logging, debug port, power control, secure I ² C, RTC, Precision RTC, sleep state configuration, auto-start response.

Expansion	I ² C, PCI-Express x16 Graphics card, iButton®
Power	12V DC single input or ATX v2.3 power supply. Intelligent power control with configurable power on response, logging, scheduling and remote button interface
Environment	Operating Temperature: 0 ~ 50 °C Storage Temperature: -20 ~ 85 °C
Approvals	EMC: UKCA, CE, FCC Class A RoHS, WEEE
Dimensions (Exclude golden fingers)	200mm (W) x 170 mm (L) (6.7" x 7.9")

Benefits

AMD RDNA3 integrated graphics and PCIe x16 for discrete graphics cards
Single board integrated solution
Designed for the Gaming Industry
Backwards compatible with DPX-S series boards
Small size
Low power
Long Lifecycle

Optional Accessories

M.2 modules, SATA DoM, SSD storage devices, M.2 -> SATA adapter
iButtons®, iButton reader
Full system Chassis
Range of PCIe graphics cards
I/O connector breakout boards
Edge card connector set

Software Products

Media Validation SDK
DPX Connector SDK
DPX Diagnostics
DPX SAS Connector
MS Windows Embedded licenses

OEM Customization and Product Development

- Advantech Gaming Solutions specialize in the fields of PC-based hardware design and software development. Our in-depth knowledge and global resources make us your ideal partner.
- Specifications subject to change. E&OE.
- Copyright © 2024 Advantech Co., Ltd.
- All rights reserved. The Advantech logo and DPX are trademarks of Advantech Co., Ltd. in the UK, US and other countries.
- All other trademarks are acknowledged and respected.

Front I/O



Rear I/O

