DPX®-S2450

High Performance AMD Ryzen™ Embedded V1000/R1000 Multi-Screen Gaming Platform

Features

- Rugged logic box design
- Security and access to meet the requirement of the gaming industry
- Quad and dual core APUs up to 3.35 (3.8) GHz
- Full gaming features set
- High performance Radeon™ VEGA GPU or PCI-Express graphics
- Support for up to 150W ¾ length double-width graphics cards
- 12VDC or ATX power supply compatible
- "Futureproof" removable I/O shield design allow upgrade to future DPX-S motherboards, Easy service SSD/HDD module

Introduction

The DPX-S2450 is a complete gaming system combining the unrivalled performance of Advantech-Innocore's DPX-S450 motherboard with the convenience of the proven DPX-S2000 enclosure. The DPX-S2450 system has a card slot bay for a PCI-Express graphics card that is wide enough for today's high powered double- width graphics cards giving the customer the ability to upgrade from the integrated graphics or add more monitors (up to 7 or more). For mass storage the system includes a quick release carrier with shock mounting for solid state disk or hard drive.

Specifications

System	AMD Ryzen Embedded v1000/R1000 APUs
	Long lifecycle 5-7 years availability
	Dual channel RAM up to DDR4-3200, ECC and non-ECC, 2 SODIMMs up to 32GB
	2 x Gigabit Ethernet LAN
	2 x C-Fast™ / SATA (SATA 3.0, 6Gbps)
	Audio (on-board 3 channel amp)
	8192 kB SRAM (NVRAM), 1MB ROM, 32kB EEPROM
Video (integrated)	Integrated – Radeon VEGA graphics engine
	Direct X 12, OpenGL 4.6, EGL 1.4
	Four monitor support from APU (3 with R1000 APU)
	Four DisplayPort DP++ interfaces (3 with R1000)
Video (expansion)	Full speed Gen 3 PCI-E graphics expansion slot x16 slot (x8 PCI-E with V1000, x4 with R1000) Simultaneous operation of integrated and PCI-E card graphics
Security	TPM security device on board
	Intrusion switch inputs (8 dedicated)
	BIOS customization
	iButton® interface (2 x 1-wire ports) support for external iButton reader)
	Precision secure Real time clock device
	Protected I²C port
Software	Edge-to-edge drivers and API/SDK
	Code portability through consistent API with other Advantech-Innocore boards
	Range of Innocore software products for Gaming
CPU/Chipset	AMD Ryzen Embedded V1000/R1000 series Accelerated Processing Unit (APU) V1000 series Dual and Quad Core APUs up to 3.35 (3.8) GHz, up to 2MB L2 cache, 54W R1000 series Dual core up to 2.6(3.5)GHz
Memory	2 x SODIMM sockets
	Up to 32GB DDR4 -2400 MT/s SDRAM ECC and non-ECC

BIOS	AMI APTIO UEFI BIOS with support for legacy boot devices
	BIOS can be write protected
	BIOS / Expansion ROM module – field removable / verifiable
LAN	2 x Ethernet Gigabit LAN(one LAN with R1000 APU)
	Full duplex operation
	Wake-On-LAN capability
Storage	2 x C-Fast™ / SATA 3 (jumper select)
	SATA 3 (up to 6Gb/s) header for HDD, SSD or SATA DOM
	1 x M.2 form factor up to 2280 size module, 4 lane PCI-E interface. NVME support (2 lane with R series APU)
Ports	5 x RS232 Serial, 16550 compatible
	2 x CCTalk/RS232
	1 x RS232/TTL
	1 x ID003/TTL/RS232
	1 x RS232/485
	11 x USB (3 x USB 3.0/ 2.0)
	2 x I²C on board header (one protected)
	Audio out - SPKR (left, right and LF), line out 5.1 channels
iButton/GPIO	Two Bi-Directional, programmable GPIO header for iButton, special purpose device or security module
Discretel/O	32 ESD protected inputs
	32 OC Outputs (500mA, 50V)
	of which 8 I/O ports can be configured as meter outputs with disconnect detect
Audio (line level)	HD 5.1 audio (line level)
	Front I/O panel jack connectors for: FL, FR, CE, LFE, RL, RR. On-board header for: Line In L & R, MIC In, SPDIF In, SPDIF Out (x2), Jack detect. Headphone connector
Audio (amplified)	On board 15W + 15W + 15W (FL, FR, LF) Class D audio amps with bass boost

Specifications Cont.

SRAM (NVRAM)	8192 KByte fast SRAM (2 banks) on PCI-E bus
	Battery state software readable
TPM	TCPA/TPM 2.0 compliant security device on board
Watchdog Timer	Programmable time-out
EEPROM	32kByte user EEPROM (option for larger)
Asset Tag	Unique API readable serial number
Intrusion Detection	8x Intrusion detection input lines (one used for enclosure)
	Operates with and without system active
	Logs date/time of last 254 events
	Logs system resets/brownouts as events
	EEPROM backup for 10 years retention

System Health Monitoring	Measurement of CPU core temp. with thermal trip. Configurable smart fan PWM control for System fans
Power Fail Detect	External sensor input for advanced warning of AC power fail
Expansion	I²C, PCI-Express x16 Graphics card (x8 lanes with V series, x4 with R series APUs)
Power	$12V_{DC}$ single input or ATX v2.3 power input
	Intelligent power control
Environment	Operating Temperature: 0 ~ 40 °C
	Storage Temperature: -20 ~ 85 °C
Approvals	EMC: CE & FCC (Class A)
	RoHS, WEEE
Dimensions	260 (W) x 214 (L) x 124 (H) mm (10.2" x 8.4" x 4.9")

Benefits

- Best-in-Class integrated graphics and PCI-E x16 for discrete graphics card
- Single integrated solution
- Designed for the Gaming Industry
- Backwards compatible with DPX-S series systems
- Small size
- Low power
- Long Lifecycle

Optional Accessories

- Range of PCI-E graphics cards
- I/O connector breakout board s
- Edge card connector set
- SATA DOM, SSD storage devices
- iButtons®, iButton carrier

OEM Customization and Product Development

- Advantech-Innocore is part of the Advantech Co., Ltd. Group of Companies.
- Advantech-Innocore specializes in the fields of PC-based hardware design and software development. Our in-depth knowledge and global resources make us your ideal partner.
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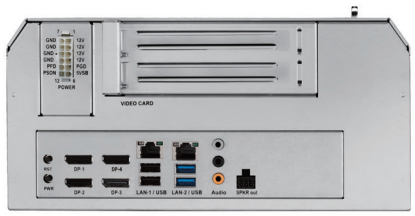
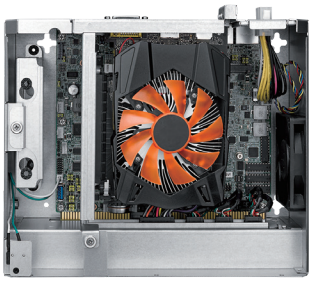
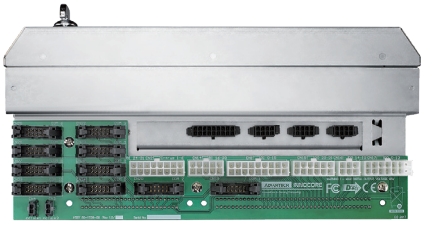
Front View



Rear View

Inside View (optional PCI-E graphics card installed)



Rear View (optional vertical connector board installed)