Innovations in Gaming Computing

The Widest Range of Solutions for the Gaming Industry

- Lottery / Casino Machines
- Sports Betting
- AWP
- VLTs / Class II
- Multiplayer Games
- Arcade
- Pachislot

Intelli & AMD Core Platforms

4K ULTRAHD

4k Monitors Supported

GLI, NVGCB, etc

Regulatory compliance

PCI Express Graphics
Advantech-Innocore is the leading global gaming supplier. The company specializes in designing and manufacturing industrial grade hardware and dedicated software tailored to the exact needs of the gaming industry. As the gaming-focused business unit of the $2Bn Advantech Group, Advantech-Innocore stands alone among hardware suppliers in its capabilities to support customers large and small in all regions of the world. Advantech is a premier member of Intel® Internet of Things (IoT) Solutions Alliance, bringing the first-to-the-market IoT solutions to the world. Advantech is also a member of AMD Elite Partner Program presenting a wide range of AMD-based high performance computing platforms. Advantech is also an Elite Partner of Nvidia for high performance and long lifecycle graphics solutions.

About Advantech-Innocore

Excellence in Design, Manufacture and Service

Advantech-Innocore’s products are designed and manufactured using high quality components, the most up-to-date design and production methodologies. In contrast to mass produced commercial grade motherboards, Advantech carefully choose components.

Key drivers when designing a DPX® motherboard and sourcing components are:

- Robust, reliable operation
- Power supply design
- Quality (UL, CE, FCC, ISO)
- Usability
- Regulatory Constraints
- Signal termination
- Signal integrity
- 24/7 365 Operational requirements.

Gaming team with 15+ years experience

- Experienced management and sales network with over 150 years of combined gaming experience
- Expert engineering, project management and design capabilities for efficient project execution
- Multi-discipline teams—hardware, firmware, FPGA, BIOS, OS, manufacturing and QC engineers
- Software drivers and libraries available to support the majority of gaming peripherals (including bill acceptors, etc)
- On-time design and build of custom hardware and software projects
- Comprehensive package—prototype validation, driver testing, manuals, drawings, design files, manufacturing test procedures, diagnostics
- Worldwide regulatory approvals for all products

International quality standard from design to delivery

The Group Quality system is audited and compliant with ISO 9001. The Quality system covers all aspects of product design, component selection, design verification, manufacturing, quality control and customer satisfaction. We also hold global certifications of ISO 13485, TL 9000, ISO 14001, OHSAS 18001 and IECQ QC 080000.

Excellence in Manufacturing & Service

With a global footprint covering all the major regions, Advantech-Innocore’s organization is unique in its ability to put technical support, configuration and repair services close to its customers.

- Local support, service and repair/RMA
- Local inventory and fulfillment capabilities
- Advantech Care Service Packages: advanced replacements, extended warranty, guaranteed turnaround time

Key drivers when designing a DPX® motherboard and sourcing components are:

- Longevity
- Usability
- EMC
- Regulatory Constraints
- Power supply design
- Quality (UL, CE, FCC, ISO)
- Cabinet Integration
- Thermal Management and Reliability
- Signal integrity
- 24/7 365 Operational requirements.
Advantech-Innocore offers the widest range of industrial grade computer products designed specifically for the regulated gaming industry. We provide our customers with excellent standard products, customized products and services, employing up-to-date technologies for gaming solutions to meet the requirements for Casino Machines, AWPs, VLTs, Multiplayer Games, Arcade Games, Pachislots, and Sports Betting.

The DPX®-S Series products provide highly integrated industrial single board computers and systems with an unrivaled performance range, scalability, long lifecycle and low power. Both AMD and Intel® platforms are offered and each one features a full set of I/O, COMs, and security, developed specifically to meet the requirements of the regulated gaming industry.

**Feature Highlights**
- Chassis options available
- Scalability of CPU and graphics
- Full feature set of I/Os, COMs, security
- Intel® & AMD CPU based
**DPX®-S450**
**AMD Ryzen™ Embedded V1000/R1000 Gaming Platform**

- Very high performance AMD Embedded V1000/R1000 SOC APUs
- Quad and dual core APUs up to 3.35 (3.8) GHz
- Radeon™ VEGA GPU with up to 11 compute units
- Four independent 4k monitors supported
- Comprehensive gaming features
- 12V DC single input or ATX power
- Full featured driver API for I/O and security

**Features**

- Digital I/O: 32/32
- Battery Backed SRAM 8MB
- Displays: 4 x DP++ 1.2 (4 simultaneous)
- Graphics Cards: PCIe x 16 Format
- Expansion: PCIe, PCIe x 16 and Golden-Fingers
- DPX® Security suite: Secureboot, TPM support, DPX® security features, BIOS customization
- DPX®-Software: Embedded OS, DPX® Diagnostics, DPX®-Connector DPX®-SAS
- 8 x USB 2.0
- 3 x USB 3.0
- M.2, SATA DOM, HDD, SSD, CFast, USB
- On-board Micro Controller PuC
- Enclosure S2000
- Displays: 4 x DP++ 1.2
- M.2, SATA DOM, HDD, SSD, CFast, USB
- On-board Micro Controller PuC
- Enclosure S2000

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**DPX®-S445**
**6/7th Generation Intel® Core™ Gaming Platform**

- Very high performance Intel® platform
- Dual and Quad Core CPUs from Celeron to Core i7
- Comprehensive gaming features
- High performance integrated or PCI-Express graphics
- Easy integration for gaming applications
- Full featured Driver API for I/O and security

**Features**

- Digital I/O: 32/32
- Battery Backed SRAM 8MB
- Displays: 3 x DP++ 1.2
- Graphics Cards: PCIe x 16 Format
- Expansion: PCIe, PCIe x 16 and Golden-Fingers
- DPX® Security suite: Secureboot, TPM support, DPX® security features, BIOS customization
- DPX®-Software: Embedded OS, DPX® Diagnostics, DPX®-Connector DPX®-SAS
- 8 x USB 2.0
- 3 x USB 3.0
- SATA DOM, HDD, SSD, USB
- On-board Micro Controller PuC
- Enclosure S2000
- Displays: 3 x DP++ 1.2
- SATA DOM, HDD, SSD, USB
- On-board Micro Controller PuC
- Enclosure S2000
DPX®-S2000
The DPX®-S2000 series products are gaming system logic boxes designed to accommodate any of Advantech's DPX®-S series motherboards in style and with excellent access to the interior behind a casino grade key-locked lid. The system has a card slot bay for a PCIe graphics card that is wide enough for today’s high powered double-width graphics cards.

- Full height, double width graphics card
- Dual PCIs slot for full height, double width graphics cards
- Casino Style lock and intrusion switch
- Easy Access I/O Panel
- Easy access to golden fingers and COMs
- 12V DC or ATX power supply compatible
- System fan
- Customizable off board expansion
- Tool free SSD/HDD access
- Industry standard connectors for easy cabinet integration

Dimensions of Chassis

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<th>Length</th>
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<tbody>
<tr>
<td>DPX®-S2450</td>
<td>214mm</td>
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- Full height, double width graphics card
- Dual PCIs slot for full height, double width graphics cards
- Casino Style lock and intrusion switch
- Easy Access I/O Panel
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- 12V DC or ATX power supply compatible
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<td>214mm</td>
<td>260mm</td>
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DPX®-E Series

- Regulated Gaming
- Slot Machines
- VLT
- GLI Compliant

- Performance at a very cost-effective price point
- Full feature set of I/Os and COMs
- Ideal integrated platforms for many gaming, amusement, and kiosk applications
- Gaming functions share the same API as the other DPX®-E series boards.
- Easy to port application code and leverage the different price and performance points across Advantech-Innocore’s full range of products

Feature Highlights

- Full feature set of I/Os and COMs
- Industry standard connectors for easy cabinet integration
- Very cost-effective price point
- Best in class integrated graphics performance
DPX®-E140
 AMD Embedded Gaming System with V1000 Platform

- AMD Ryzen™ Embedded V1000 Processors
- High performance Radeon™ VEGA series graphics
- Four 4k monitor support
- Comprehensive gaming features
- Passive cooled system up to 25W, 54W with fan cooler
- 12V DC single input or ATX power
- AMD Ryzen™ Embedded V1000 Processors

DPX®-E145
 Intel 11th Generation Gaming Platform

- 11th Generation Intel® Core™ SOC CPUs
- CPUs up to Dual 3.0 (3.9) GHz, Quad core 2.8GHz (4.4) GHz
- Intel® Iris Xe integrated graphics
- Four 4k monitor support
- Comprehensive gaming features
- Passive cooled system up to 28W

Features

Digital I/O

- 32/32
- 7 x USB 2.0
- 2 x USB 3.0
- DPX®-Software: Embedded OS, DPX® Diagnostics, DPX® Connector, DPX®-SAS
- Battery Backed SRAM 8MB
- 9 x COMs: ccTalk, RS232, ID003, RS485, TTL
- Enclosure Metalwork Optional
- 4 x DP++ 1.2
- M.2, SATA DOM, HDD, SSD, CFast, USB
- On-board Micro Controller PuC
- DPX® Security suite: Secureboot, TPM support, DPX® security features, BIOS customization

Expansion

PC

Features

Digital I/O

- 32/32
- 7 x USB 2.0
- 2 x USB 3.0
- DPX®-Software: Embedded OS, DPX® Diagnostics, DPX® Connector, DPX®-SAS
- Battery Backed SRAM 8MB
- 9 x COMs: ccTalk, RS232, ID003, RS485, TTL
- Enclosure Metalwork Optional
- 4 x DP++ 1.2
- M.2, SATA DOM, HDD, SSD, CFast, USB
- On-board Micro Controller PuC
- DPX® Security suite: Secureboot, TPM support, DPX® security features, BIOS customization

Expansion

PC
DPX®-M Series

- Sports betting
- Kiosk
- Arcade
- Gaming

- Based on Intel® 8th and 9th generation Core i processors and AMD Ryzen V1000 series
- These products provide a high performance multi-media engine to the needs of gaming OEMs
- The modular expansion bus allows modules to be added such as I/O, COMs, security, and specialized interfaces

Feature Highlights

- AMD and Intel® CPUs available, Mini ITX mounting holes, up to 4 x 4K screens and development kits.
- M1000 (half height) and M2000 chassis options available, M-Series PSU units are available.
- Modular Side expansion bus, Advantech has a range of standard “add-on cards” for Sports Betting or Gaming Sub System.

DPX®-M270

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

- Intel® I9/i7/i5/i3 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
- Storage 2 x SATA with 1 x M.2
- Secureboot support
- RS232, ccTalk, TTL, ID003, I2C, Intrusion and Digital Inputs
- Modular Expansion Port - Edge connector

Features

- Displays: 2 x DP++, 1 x HDMI 4.4
- Graphics Cards: PCIe x 16 Format
- Onboard: 8 x USB 2.0, 4 x USB 3.1
- Expansion I/O: PCIe x 16 and Sidebus modular expansion
- M.2, SATA DOM, HDD, SSD, USB
- On-board Micro Controller PucLite

DPX® Security suite: Secureboot, TPM support, DPX® security features, BIOS customization

DPX® Software: Embedded OS, DPX® Diagnostics, DPX®-Connector DPX®-SAS

Enclosure M1000/M2000

M1000 (half height) and M2000 chassis options available, M-Series PSU units are available.

Modular Side expansion bus, Advantech has a range of standard “add-on cards” for Sports Betting or Gaming Sub System.

Onboard: 8 x USB 2.0, 4 x USB 3.1

Via Golden-Fingers:
- 2 x USB 2.0

6 x COMs:
- ccTalk, RS232, ID003, TTL

Expansion I/O, PCIe x 16 and Sidebus modular expansion

SS-

M.2, SATA DOM, HDD, SSD, USB

PuC

On-board Micro Controller PucLite
DPX®-E265
AMD Ryzen™ Embedded V1000 mITX with Four DP++, ECC, PCIe expansion

- Supports 4 x DP++ 1.2
- Supports PCIe x8 (PCIe x16 connector, Gen 3.0)
- Two 260-pin SO-DIMM up to 32 GB DDR4 3200 MHz ECC/Non-ECC SDRAM
- Removable gaming BIOS module for field verification
- Side expansion port for application specific expansion modules
- Supports 2 x SATA / 1 x M.2
- AMD Ryzen™ Embedded V1000 processors
- Secureboot support

DPX®-M1000 & DPX®-M2000
The DPX® M Series of chassis are available in half height and full height options, to accommodate both standard height graphics cards and other 3rd party PCIe expansion cards.

- Up to 200W power supply
- Compact design
- Tool Free SSD/HDD access
- System fan
- Complete solution

<table>
<thead>
<tr>
<th>Dimensions of Chassis</th>
<th>DPX®-M1000</th>
<th>DPX®-M2000</th>
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<tr>
<td>Width</td>
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<td>295mm</td>
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<tr>
<td>Height</td>
<td>104mm</td>
<td>134mm</td>
</tr>
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</table>
DPX®-J100
AMD Ryzen™ Embedded V & R Series Gaming Platform

- High performance AMD Embedded V&R SOC APUs
- Quad and dual core APUs
- Radeon™ VEGA GPU with up to 8 compute units
- Up to 3 independent monitors supported
- Comprehensive Gaming Features
- 72 + 20 Pin JAMMA harness connectors
- Optional Enclosure

Feature Highlights

JAMMA Connectors
Passively Cooled (some APUs)
Chassis Available
Full set of I/O’s, COMs and Security

Digital I/O
24/29
Expansion
I2C, Mini PCI
DPX® Security suite (as below) +Button
Up to 2MB of battery backed FRAM
6 USB 4 x 2.0 - 2 x 3.1/2.0
DPX®-Software: Embedded OS, DPX® Diagnostics, DPX®-Connector DPX®-SAS
1 x DP++, 1 x HDMI and 1 x VGA
6 Cores – 6B23248S Tx/Rx
Optional Enclosure
Onboard audio amplifier, line out, digital SPDIF out
SATA DOM, SSD, HDD, M.2, USB, CFast
On board Micro Controller.
The DPX®-J100 systems are gaming system logic boxes designed around Advantech’s DPX®-J series motherboards. Easy access to a full set of I/O, COMs and tamper proof switch, security features designed specifically for gaming devices makes the J100 system ideal for many gaming, amusement and kiosk applications. Optimised cooling with fanless options for certain models, allows for robust, maintenance free operation in the harshest gaming environments.

**Dimensions of Chassis**

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<th>Length</th>
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<tr>
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<td>200mm</td>
<td>200mm</td>
<td>65mm</td>
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</table>

**DPX®-Development Kits**

All inclusive packages for quick development

With development times becoming shorter in the gaming industry, the range of DPX® Developer’s kits provides a fast, simple way to get up and running with any of the DPX® Series products. It also provides the best possible out of the box experience, everything you need to begin developing on the DPX®-Hardware platforms, delivered to you, fully tested, up to date drivers etc in one handy box.

- All inclusive kits for each DPX® mainboard
- Fast and simple setup to evaluate and start development
- Includes pre-configured operating systems, drivers and utilities
- Source code
- DPX®-Chassis
- Demo utilities
- CD/DVD ROM
- 128GB Advantech Storage
- Demo OS / Linux Image
- Full cable sets
- Motherboard + CPU
- 8GB Advantech RAM
- Complete documentation
- Demo and reference source code
- I/O development board, power supply, full documentation

The kits are based on a DPX® mainboard, and includes all the other necessary items to set up an evaluation and development station.
Gaming Software, Firmware, Integration and Security Support

Software Overview

Advantech-Innocore supplies a wide range of software packages and support to accelerate the customer’s development cycle. As well as board support packages with highly robust drivers and edge-to-edge coverage for the hardware platforms, we offer a variety of other software products including peripheral protocol libraries, security suites, and diagnostic and test software that help develop the best-balanced gaming solutions.

Board Support Package

Board support packages provide software support such as Microsoft Windows embedded OS and range of embedded Linux. A full set of drivers and APIs are provided to all standard PC functions as well as all gaming specific hardware features. Direct PCI Software Development Kit is integrated into the DPX® Series motherboards and handles gaming critical functions such as SRAM, Digital Inputs Outputs (DIO) Watchdog, as well as Intrusion monitoring and other functions. The API is optimized for Embedded Windows and Linux distributions and is common across all DPX® Gaming motherboards.

Security

Advantech-Innocore understand that the protection of gameplay data and machine state are critical considerations, software / hardware tampering detection, as well as media validation are key requirements by the gaming regulators. The aim is Players and Operators protection, and fair games and correct payouts. As such the DPX® range of gaming motherboards come as standard with the following security features:

- TPM Chip
- Random Number Generator (FIPS)
- Password protected i2c port
- 88 Bit Unique ID
- ENF/UNF support
- BitLocker support
- Software authentication
- TCG Opal 2.0 SQFlash products available
- Intrusion detection logging processor (IDLP)
- Support for security ROM extensions
- Customization and write protection for security
- Support for security ROM extensions

OEM Intellectual Property

Encryption of data and applications, strong password and key storage, platform authentication are all key considerations when choosing a gaming platform, as well as prevention of copying / cloning of game data, stopping unauthorized content from being loaded in order to maintain competitive advantage and protect investment and IP. Our software solutions combined with hardware features give the developer multiple methods to protect their game content.

Featured Gaming Software

DPX® • SecureBoot™ SDK

Secureboot provides a toolkit for the developer to produce low-cost, low-overhead security mechanisms for gaming machines. The mechanisms security features cover various aspects of security control and ensure:
1) Customers’ software applications can only run on designated hardware.
2) Designated systems only run designated software.
3) Compliance with U.S. and international gaming regulations for media validation.

- SDK for customizable pre boot BIOS media validation
- Meets GLI-11 and other regulatory requirements
- SHA-1 Hash and BIOS self-test
- Supports encrypted digest and multiple hash tables
- Comprehensive user manual

The Trusted Platform Module (TPM)

The trusted platform module (TPM) chip included on Advantech-Innocore DPX® Series main boards is an advanced security co-processor offering a high level of hardware-based security for application development and deployment.

- Unique per-board RSA key Genereates, stores and protects RSA keys; keys never leave the TPM chip un-protected
- RSA asymmetric encryption and signing SHA-1 hashing
- Generates random numbers to 1-million bit random-ness (as tested by US NSA)
- Chip is physically secure from physical tampering

BIOS

Advantech provides gaming-specific firmware and software customization services including BIOS and TPM support that deliver superior performance, compatibility and functionality, and also provide information encryption, which is expected by manufacturers of gaming platforms.

- Secure AM APTIO UEFI BIOS
- Customization
- FSC± verifiable BIOS
- Field and Laboratory approved
- Immutable BIOS and development versions
- Customization and write protection for security
- Support for security ROM extensions

DPX® • Connector SDK

DPX® Connector SDK is a software package developed to address customers’ needs to connect third-party hardware peripherals to Advantech-Innocore computer boards. A unified event handler provides and efficient method to handle communications. The SDK supplies a range of hardware and protocol-oriented modules to allow connection of a range of peripherals including:

- Coin Hoppers
- Bill Validators
- Ticket Printers

The DPX® Connector SDK supports ocTalk and JCM ID003 devices, as well as Windows and Linux.
The DPX®-SAS Engine is a complete, ready to use driver and API environment that enables implementation of the SAS protocol with the DPX® range of products. Field proven and lab-certified the SAS Engine handles all SAS messaging, register structures and timing protocols.

Slot Accounting System (SAS)

- Fully Featured SAS protocol library
- Mature field-proven product
- Approved in all major jurisdictions
- Supports latest versions

- Multi-game support
- Windows and Linux
- Ticket in / Ticket Out (TITO)
- Advanced Funds transfer facilities
- Real Time events
- Supports different currencies
- Progressives and tournament support.

DPX® Diagnostics SDK

The DPX® Diagnostics SDK is the perfect pre-deployment hardware verification tool, allows gaming features and software testing. USB and CD bootable, and comprehensive Windows and Linux support. Source code is available.

1-Wire / iButton® SDK

The 1-Wire / iButton® SDK provides support for all 1-Wire and iButton devices, comprehensive Windows and Linux support. Source code is available.

PuC Microcontroller

The PuC embedded Microcontroller (IOC, PuC, MPuc and PuC-Lite® depending on the DPX®-Model) is an integrated subsystem used across the range of Advantech Innocore motherboard products and provides a range of user functions suited to the gaming industry.

- What is IT? On-board, low cost, low power, 8 bit microcontroller.
- What does it do? Provides system maintenance, diagnostics, configuration, reliability, security, event logging and manageability functions.
- Customer Benefits Improved system reliability, remote manageability, remote updates, simplified factory set up (jumper-less design, single firmware image), improved security and logging, quieter operation.

Gaming Monitors

Designed exclusively for gaming applications, our gaming display solutions provide a wide range of gaming monitors to meet the special requirements of applications such as slot machines and casinos. Our solutions include open frame monitors and ultra widescreen displays. These display solutions feature widescreens, reliable touch screens and flexible mechanical designs that can be integrated with Advantech gaming platforms for a total gaming solution. Applications include slot machine, lottery terminals, jackpot systems, Sports Betting terminals, lottery terminals etc.

HALO Series

<table>
<thead>
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<th>Standard, Front LED and Edge LED</th>
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<tbody>
<tr>
<td>Panel Size: 21.5”</td>
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<tr>
<td>Resolution: 1920x1080@60Hz</td>
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<tr>
<td>Brightness: 250 nits</td>
</tr>
<tr>
<td>Viewing Angle: 85/85/85/85 LRUD</td>
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<tr>
<td>Video Inputs: HDMI/DP</td>
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</tbody>
</table>

| Panel Size: 23.8”               |
| Resolution: 1920x1080@60Hz      |
| Brightness: 250 nits            |
| Viewing Angle: 85/85/85/85 LRUD|
| Video Inputs: VGA, DVI, DP      |

| Panel Size: 27”                 |
| Resolution: 1920x1080@60Hz      |
| Brightness: 300 nits            |
| Viewing Angle: 85/85/85/85 LRUD|
| Video Inputs: VGA, DVI, DP      |

Open Frame / Button Deck Touch

| Panel Size: 10.1”               |
| Resolution: 1280x800            |
| Brightness: 500 nits            |
| Viewing Angle: 85/85/85/85 LRUD|
| Video Inputs: VGA, DVI          |

| Panel Size: 13.3”               |
| Resolution: 1920 x 1080         |
| Brightness: 500 nits            |
| Viewing Angle: 85/85/85/85 LRUD|
| Video Inputs: VGA, DVI          |

| Panel Size: 16.3”               |
| Resolution: 1920 x 1080         |
| Brightness: 500 nits            |
| Viewing Angle: 85/85/85/85 LRUD|
| Video Inputs: VGA, DVI          |

Zero Bezel

| Panel Size: 21.5”               |
| Resolution: 1920x1080@60Hz      |
| Brightness: 250 nits            |
| Viewing Angle: 85/85/85/85 LRUD|
| Video Inputs: VGA, DVI (optionalHDMI/DVI) |

Panel Size: 21.5”
Resolution: 3840x2160@60Hz
Brightness: 450 nits
Radius: 1500mm
Viewing Angle: 85/85/85/85 LRUD
Video Inputs: DVI, DP, HDMI

Panel Size: 43” Available in C & J Curved
Resolution: 3840x2160@60Hz
Brightness: 450 nits
Radius: 1500mm
Viewing Angle: 85/85/85/85 LRUD
Video Inputs: DVI, DP, HDMI

For C and J curved

Panel Size: 10.1”
Resolution: 1280x800
Brightness: 500 nits
Viewing Angle: 85/85/85/85 LRUD
Video Inputs: VGA, DVI

Panel Size: 13.3”
Resolution: 1920 x 1080
Brightness: 500 nits
Viewing Angle: 85/85/85/85 LRUD
Video Inputs: VGA, DVI

Panel Size: 16.3”
Resolution: 1920 x 1080
Brightness: 500 nits
Viewing Angle: 85/85/85/85 LRUD
Video Inputs: VGA, DVI

Panel Size: 21.5”
Resolution: 1920x1080@60Hz
Brightness: 250 nits
Viewing Angle: 85/85/85/85 LRUD
Video Inputs: VGA, DVI, DP

Panel Size: 32” C Curved Only
Resolution: 3840x2160@60Hz
Brightness: 250 nits
Radius: 1500mm
Viewing Angle: 85/85/85/85 LRUD
Video Inputs: DVI, DP, HDMI

Panel Size: 43” Available in C & J Curved
Resolution: 3840x2160@60Hz
Brightness: 450 nits
Radius: 1500mm
Viewing Angle: 85/85/85/85 LRUD
Video Inputs: DVI, DP, HDMI

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**Industrial Memory & Storage, Microsoft OS, PCIe Graphics Cards**

Advantech-Innocore gaming peripherals offer specialized, quality components with long lifecycle support for our gaming platforms. All peripherals are fully compatible with Advantech-Innocore gaming boards and systems. We provide:

- Long lifecycle graphic cards
- Storage devices - HDD, CFast, SSD, M.2
- Embedded operating system licenses
- Long lifecycle, reliable RAM modules
- Backplanes and Connector Boards
- Buttons
- Enclosures

**SQFlash Industrial Storage Solutions**

SQFlash series supports various interfaces such as SATA, PCIe/NVMe and PATA/IDE with multiple form factors including 2.5" SSD, mSATA, M.2, DOM, CFast, half-slim SSD and more.

**SQRAM Industrial Memory Solutions**

SQRAM series offers a comprehensive range of product lines including Unbuffered DIMM ECC DIMM, server DIMM and rugged DIMM with speed of DDR4, DDR3, DDR2 and DDR1.

**Graphic Cards**

Increasingly in embedded systems, more and more demands are made for rich, vibrant graphics and enhanced parallel computing capabilities. Advantech recently introduced a comprehensive product line of graphics solutions specifically designed for diverse industrial applications needing high processing and imaging technology requirements. Graphics cards feature high performance, rich I/O interface, wide temperature operation, and low power consumption. Advantech supports long lifecycles from 3 to 5 years.

**Microsoft OS License**

Advantech is a gold worldwide partner and licensed distributor of Microsoft OS and Cloud solutions. Windows 10 IoT is a family of Windows 10 editions targeted towards a wide range of intelligent devices, from small industrial gateways to larger, more complex devices like point of sales terminals and ATMs. Combined with the latest Microsoft development tools and Azure IoT services, partners can gather, store and process data, creating actionable business intelligence that affects business outcomes. Partners building solutions based on Windows 10 IoT will realize expanded opportunities when they harness the full breadth of Microsoft technologies to offer end-to-end solutions.

**Gaming Platform and Customization Services**

Service Overview

Advantech-Innocore’s capability to provide customers with reliable computing solutions is not limited to our wide range of standard products. We welcome custom designs ranging from small modifications of one of our existing products up to completely new product design incorporating new motherboard, chassis, carrier boards, custom firmware and microcontroller design.

- Huge portfolio of reference designs
- 900+ R&D Engineers
- In house CAD design and simulation services
- Intel® & AMD Select Partner
- In house design validation (EMC, signal integrity, thermal, vibration, HALT)
- Worldwide base of installed hardware and field proven software

<table>
<thead>
<tr>
<th>Hardware Design Services</th>
<th>Firmware and OS design services</th>
<th>System Design Services</th>
</tr>
</thead>
<tbody>
<tr>
<td>Custom CPU board designs</td>
<td>Embedded OS support</td>
<td>Custom enclosures</td>
</tr>
<tr>
<td>Intel®, AMD, and RISC platforms</td>
<td>OS image development</td>
<td>Thermal simulation</td>
</tr>
<tr>
<td>GPU design and integration</td>
<td>FPGA, microcontroller custom firmware</td>
<td>Peripheral integration</td>
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<tr>
<td>Custom I/O</td>
<td>BIOS customization</td>
<td>System validation (thermal, vibration, EMC, HALT etc)</td>
</tr>
<tr>
<td>Various security solutions</td>
<td>BIOS Security extension code</td>
<td>Integration of customer’s hardware</td>
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</table>
### Gaming Computing Platforms

#### Standalone Series

<table>
<thead>
<tr>
<th>Model Name</th>
<th>DPX®-S400</th>
<th>DPX®-S40</th>
<th>DPX®-S445</th>
<th>DPX®-S495</th>
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<tbody>
<tr>
<td>Form Factor</td>
<td>DPX Gaming System</td>
<td>DPX Gaming Board</td>
<td>DPX Gaming System</td>
<td>DPX Gaming Board</td>
</tr>
<tr>
<td>Processor System</td>
<td>CPU: AMD Ryzen™, Intel® Core™</td>
<td>Socket LGA 1700</td>
<td>Socket LGA 1700</td>
<td>Socket LGA 1700</td>
</tr>
<tr>
<td>Software</td>
<td>Software: Gaming</td>
<td>Gaming</td>
<td>Gaming</td>
<td>Gaming</td>
</tr>
<tr>
<td>Hardware</td>
<td>Hardware: Gaming</td>
<td>Gaming</td>
<td>Gaming</td>
<td>Gaming</td>
</tr>
<tr>
<td>Storage</td>
<td>Storage: M.2</td>
<td>M.2</td>
<td>M.2</td>
<td>M.2</td>
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<td>2, 2</td>
<td>2, 2</td>
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<tr>
<td>Graphics</td>
<td>Graphics: 4, 4, 4</td>
<td>4, 4, 4</td>
<td>4, 4, 4</td>
<td>4, 4, 4</td>
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<tr>
<td>Memory</td>
<td>Memory: 2x SODIMM, 2x SODIMM</td>
<td>2x SODIMM</td>
<td>2x SODIMM</td>
<td>2x SODIMM</td>
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<td>Expansion</td>
<td>Expansion: DPX® Connector</td>
<td>DPX® Connector</td>
<td>DPX® Connector</td>
<td>DPX® Connector</td>
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<tr>
<td>Options</td>
<td>Options: SecureBoot, Customization</td>
<td>SecureBoot, Customization</td>
<td>SecureBoot, Customization</td>
<td>SecureBoot, Customization</td>
</tr>
<tr>
<td>Processor</td>
<td>Processor: AMD Ryzen™, Intel® Core™</td>
<td>Socket LGA 1700</td>
<td>Socket LGA 1700</td>
<td>Socket LGA 1700</td>
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<td>Dual Channel DDR4, 3200MHz</td>
<td>Dual Channel DDR4, 3200MHz</td>
<td>Dual Channel DDR4, 3200MHz</td>
</tr>
<tr>
<td>Graphics</td>
<td>Graphics: in CPU (AMD Radeon™ VEGA series graphics engine)</td>
<td>in CPU (AMD Radeon™ VEGA series graphics engine)</td>
<td>in CPU (AMD Radeon™ VEGA series graphics engine)</td>
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#### Economy Series

<table>
<thead>
<tr>
<th>Model Name</th>
<th>DPX®-E145</th>
<th>DPX®-E140</th>
<th>DPX®-E265</th>
<th>DPX®-E1265</th>
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<tbody>
<tr>
<td>Form Factor</td>
<td>Form Factor: Gaming</td>
<td>Gaming</td>
<td>Gaming</td>
<td>Gaming</td>
</tr>
<tr>
<td>Processor System</td>
<td>Processor: Intel® Core™, AMD Ryzen™</td>
<td>Socket LGA 1700</td>
<td>Socket LGA 1700</td>
<td>Socket LGA 1700</td>
</tr>
<tr>
<td>Software</td>
<td>Software: Gaming</td>
<td>Gaming</td>
<td>Gaming</td>
<td>Gaming</td>
</tr>
<tr>
<td>Hardware</td>
<td>Hardware: Gaming</td>
<td>Gaming</td>
<td>Gaming</td>
<td>Gaming</td>
</tr>
<tr>
<td>Storage</td>
<td>Storage: SSD</td>
<td>SSD</td>
<td>SSD</td>
<td>SSD</td>
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<td>2, 2</td>
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<td>4, 4, 4</td>
<td>4, 4, 4</td>
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<td>8GB</td>
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<td>Dual Channel DDR4, 3200MHz</td>
<td>Dual Channel DDR4, 3200MHz</td>
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<td>Options</td>
<td>Options: SecureBoot, Customization, BIOS</td>
<td>SecureBoot, Customization, BIOS,</td>
<td>SecureBoot, Customization, BIOS,</td>
<td>SecureBoot, Customization, BIOS,</td>
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<tr>
<td>Processor</td>
<td>Processor: AMD Ryzen™ Embedded, Intel® Core™</td>
<td>Socket LGA 1700</td>
<td>Socket LGA 1700</td>
<td>Socket LGA 1700</td>
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<tr>
<td>Memory</td>
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<td>Dual Channel DDR4, 3200MHz</td>
<td>Dual Channel DDR4, 3200MHz</td>
<td>Dual Channel DDR4, 3200MHz</td>
</tr>
<tr>
<td>Graphics</td>
<td>Graphics: in CPU (AMD Radeon™ VEGA series graphics engine)</td>
<td>in CPU (AMD Radeon™ VEGA series graphics engine)</td>
<td>in CPU (AMD Radeon™ VEGA series graphics engine)</td>
<td>in CPU (AMD Radeon™ VEGA series graphics engine)</td>
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Note: "-" means Not Applicable (N/A)
# Modular Series

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<thead>
<tr>
<th>Model Name</th>
<th>DPX®-M270</th>
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<tbody>
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<td>Form Factor</td>
<td>Extended Mini-ITX</td>
<td>DPX® Multimedia Gaming System</td>
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<tr>
<td><strong>Processor System</strong></td>
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<td></td>
</tr>
<tr>
<td>CPU</td>
<td>Intel® 8th &amp; 9th Gen. Core™-i7/i5/i3</td>
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<tr>
<td>Socket</td>
<td>LGA1151</td>
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</tr>
<tr>
<td>max. speed</td>
<td>3.2(4.6) GHz</td>
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<tr>
<td>TDP</td>
<td>65W</td>
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<tr>
<td>Chipset</td>
<td>Q370/H310</td>
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<tr>
<td><strong>Memory</strong></td>
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<tr>
<td>Technology</td>
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<td>Max. Capacity</td>
<td>32 GB/ 16 GB per SO-DIMM</td>
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<td>Socket</td>
<td>2 x 260 PIN DDR4 SO-DIMM</td>
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<tr>
<td><strong>Graphics</strong></td>
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<td></td>
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<tr>
<td>Controller</td>
<td>AMD Radeon™ VEGA series</td>
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<tr>
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<td>6W+6W (FL, FR)</td>
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<td><strong>I/O</strong></td>
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<td>VGA/DVI/HDMI/DP</td>
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<td>Ethernet</td>
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<td>USB 2.0</td>
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<td>USB 3.0</td>
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</tr>
<tr>
<td>Audio</td>
<td>1 (ch5.1), SPDIF (Option)</td>
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<tr>
<td><strong>Serial Port</strong></td>
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<tr>
<td><strong>Expansion Slot</strong></td>
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<tr>
<td>PCI</td>
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<tr>
<td>MINI PCIe/mSATA</td>
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<tr>
<td>PCIe x 16</td>
<td>-</td>
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</tr>
<tr>
<td>PCIe x16 Gen3</td>
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<tr>
<td><strong>Side Expansion Port</strong></td>
<td>2 PCIe x1, 2(1) USB, I2C, Control</td>
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<tr>
<td><strong>Networking</strong></td>
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<td></td>
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<tr>
<td>Ethernet (LAN)</td>
<td>2</td>
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<tr>
<td><strong>Storage</strong></td>
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<td></td>
</tr>
<tr>
<td>Controller</td>
<td>M.2 (NVMe, U.2, PCIe, mSATA)</td>
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<tr>
<td><strong>Networking</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ethernet</td>
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<tr>
<td>USB 2.0</td>
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</tr>
<tr>
<td>USB 3.0</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Audio</td>
<td>1 (ch5.1), SPDIF (Option)</td>
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</tr>
<tr>
<td><strong>Gaming Hardware</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Gaming Software</strong></td>
<td></td>
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<tr>
<td><strong>Other Features</strong></td>
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</table>

# Jamma Series

<table>
<thead>
<tr>
<th>Model Name</th>
<th>DPX®-J100</th>
</tr>
</thead>
<tbody>
<tr>
<td>Form Factor</td>
<td>Extended Mini-ITX</td>
</tr>
<tr>
<td><strong>Processor System</strong></td>
<td></td>
</tr>
<tr>
<td>CPU</td>
<td>AMD Ryzen™ Embedded V1000/ R1000 APU</td>
</tr>
<tr>
<td>Socket</td>
<td>BGA</td>
</tr>
<tr>
<td>max. speed</td>
<td>2.6 (3.5) GHz</td>
</tr>
<tr>
<td>TDP</td>
<td>15W</td>
</tr>
<tr>
<td>Chipset</td>
<td>SoC</td>
</tr>
<tr>
<td><strong>Memory</strong></td>
<td></td>
</tr>
<tr>
<td>Technology</td>
<td>DDR4 2400MHz</td>
</tr>
<tr>
<td>Max. Capacity</td>
<td>32GB</td>
</tr>
<tr>
<td>Socket</td>
<td>2x SODIMM</td>
</tr>
<tr>
<td><strong>Graphics</strong></td>
<td></td>
</tr>
<tr>
<td>Controller</td>
<td>in APU (AMD Radeon™ VEGA series)</td>
</tr>
<tr>
<td>Audio</td>
<td>1 (ch5.1), SPDIF (Option)</td>
</tr>
<tr>
<td><strong>I/O</strong></td>
<td></td>
</tr>
<tr>
<td>VGA/DVI/HDMI/DP</td>
<td>1/0/1/1</td>
</tr>
<tr>
<td>Ethernet</td>
<td>2</td>
</tr>
<tr>
<td>USB 2.0</td>
<td>4</td>
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<td>USB 3.0</td>
<td>2</td>
</tr>
<tr>
<td>Audio</td>
<td>1 (ch5.1), SPDIF (Option)</td>
</tr>
<tr>
<td><strong>Serial Port</strong></td>
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</tr>
<tr>
<td><strong>Expansion Slot</strong></td>
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<tr>
<td>PCI</td>
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<tr>
<td>MINI PCIe/mSATA</td>
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<tr>
<td>PCIe x 16</td>
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<tr>
<td>PCIe x16 Gen3</td>
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</tr>
<tr>
<td><strong>Side Expansion Port</strong></td>
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</tr>
<tr>
<td><strong>Networking</strong></td>
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<td>Ethernet</td>
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<tr>
<td>USB 2.0</td>
<td>4</td>
</tr>
<tr>
<td><strong>Gaming Hardware</strong></td>
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<tr>
<td><strong>Gaming Software</strong></td>
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<tr>
<td><strong>Other Features</strong></td>
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</tbody>
</table>

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**Note:** 1: "-" means Not Applicable (N/A)
2: (3 simultaneous for Q370, 2 simultaneous for H310)

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**Memo**

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