Innovations in Gaming Computing

The Widest Range of Solutions for the Gaming Industry

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

www.advantech-innocore.com
About Advantech

Advantech is a $2Bn leading technology business that 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 Advantech, 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 Partner Program presenting a wide range of AMD-based high performance computing platforms. Advantech is an Elite Partner of Nvidia for high performance and long lifecycle graphics solutions.

Gaming team with extensive knowledge and 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. Advantech also holds global certifications of ISO 13485, TL 9000, ISO 14001, OHSAS 18001 and IECQ QC 080000.

Advantech - Global Company, Local Services
Advantech-Innocore’s products are designed and manufactured using high quality components, and apply the most up-to-date design and production methodologies. In contrast to mass produced commercial grade motherboards, Advantech-Innocore carefully source and choose components for the best results.

Key drivers when designing DPX® motherboards and sourcing components are:

- Longevity
- Robust, Reliable Operation
- Usability
- Regulatory Constraints
- EMC
- Signal Termination
- Power Supply Design
- Cabinet Integration
- Quality (UL, CE, FCC, ISO)
- Signal Integrity
- Thermal Management and Reliability
- 24/7 365 Operational Requirements.
Complete Portfolio of Gaming Solutions

Advantech-Innocore offers the widest range of industrial grade computer products designed specifically for the regulated gaming industry. Providing customers with excellent standard products, customized products and services, employing up-to-date technologies for gaming solutions to meet the requirements for Casino Machines, AWP's, VLT's, Multiplayer Games, Arcade Games, Pachislots, and Sports Betting.

Complete Portfolio of Gaming Solutions

- **Graphic Cards**
  - Long lifecycle
  - Intel, Nvidia and AMD
  - PCIe Graphics

- **Industrial Storage**
  - SSD, HDD, CF, CFast, M.2
  - DDR1-DDR5 SODIMM
  - Custom provisioning
  - Lifecycle controlled
  - Power fail protection
  - Comprehensive security features

- **Gaming Monitors**
  - All sizes with touch 4-55° curved touch with customizable radius
  - C, J and other profiles available

- **Software**
  - Microsoft embedded authorized distributor
  - BSP for Windows, Linux and more
  - Custom, lockable image development
  - Custom BIOS

- **Industrial Platforms & Systems**
  - Gaming I/O, multiple COM
  - Onboard NVRAM
  - Security
  - Worldwide regulatory approvals

- **DPX® LED Controller**
  - Robust metal cover
  - Industrial grade product
  - Custom Vibrance FX application for easy detailed content creation

- **Gaming Platforms & Digital Signage**
  - Mini-ITX, single board computers, computer on modules RISC computing platforms
  - Full ranges of signage
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
- AMD and Intel CPU based
DPX®-S455
12/13th Generation Intel® Core™ Gaming Platform

• Very high-performance Intel Hybrid Multi-core CPUs
• CPUs up to i9 24 Core
• Three independent monitors including 8k & HDR options
• PCIe x16 graphics card slot
• Comprehensive gaming features
• 12V DC single input or ATX power
• Full featured driver API for IO and security

Features

Digital I/O 32/32
NVRAM (MRAM) 8 - 12 MB (no battery required)
3 x DP++
I²C, PCIe x 16 & Golden Fingers

6 x USB 2.0
3 x USB 3.0
10 x COMs: ccTalk, RS232, ID003, RS485, TTL
M.2, SATA DOM, HDD, SSD, USB

DPX-Software: Embedded OS, DPX Diagnostics, DPX-Connector & DPX-SAS
Enclosure Metalwork
Optional S2000
On-board Microcontroller
PuC

DPX Security Suite: Media Validation Toolkit, TPM Support, DPX Security Features & BIOS Customization
DPX®-S451
AMD R2000 Gaming Platform

- High-performance AMD Embedded R2000 SOC APUs
- Quad and dual core APUs up to 3.35 (3.7) GHz
- Radeon VEGA GPU with up to 8 x 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
- Expansion I²C, PCIe x 16 & Golden Fingers
- Battery Backed SRAM 8MB
- 8 x USB2.0
- 3 x USB3.0
- Displays 4 x DP++
- 10 x COMs: ccTalk, RS232, ID003, RS485, TTL, & 3 x DP++ 1.2
- Graphics Cards PCIe x 16 Format
- M.2, SATA DOM, HDD, SSD, Cfast, & USB
- DPX Security Suite: Media Validation Toolkit, TPM Chip Support. DPX Security Features & BIOS Customization
- DPX Software: Embedded OS, DPX Diagnostics, DPX–Connector & DPX- SAS
- Enclosure S2000
- On-board Microcontroller PuC
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
• 4 x 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++ (4 simultaneous)
- Graphics Cards PCIe x 16 Format
- Expansion I²C, PCIe x 16 & Golden Fingers
- 8 x USB 2.0
- 3 x USB 3.0
- 10 x COMs: ccTalk, RS232, ID003, RS485, TTL
- Enclosure S2000
- M.2, SATA DOM, HDD, SSD, CFast, USB
- On-board Microcontroller PuC

DPX Security Suite: Media Validation Toolkit, TPM Support, DPX Security Features & BIOS Customization

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

Microsoft
AMD
Linux
CE
FCC
DPX®-S445
6th & 7th Generation Intel® Core™ Gaming Platform

- Very high performance Intel platform
- Powered by 6th & 7th Gen Intel Core processors (available with Intel Core i3/i5/i7, Intel Celeron & Intel Pentium)
- Comprehensive gaming features
- High performance integrated or PCIe graphics
- Easy integration for gaming applications
- Full featured driver API for I/O and security

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<tr>
<th>Features</th>
<th>Description</th>
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<tr>
<td>Digital I/O</td>
<td>32/32</td>
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<tr>
<td>Expansion</td>
<td>I²C, PCIe x 16 &amp; Golden Fingers</td>
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<tr>
<td>Battery Backed SRAM</td>
<td>8MB</td>
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<tr>
<td>8 x USB</td>
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<td>3 x USB</td>
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<td>3 x DP++</td>
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<tr>
<td>Graphics Cards</td>
<td>PCIe x 16 Format</td>
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<td>Envelope</td>
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<tr>
<td>DPX Security Suite: Media Validation</td>
<td>Toolkit, TPM Support, DPX Security Features &amp; BIOS Customization</td>
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<td>DPX-Software: Embedded OS, DPX Diagnostics, DPX-Connector &amp; DPX-SAS</td>
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<tr>
<td>Enclosure</td>
<td>S2000</td>
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<tr>
<td>On-board Microcontroller PuC</td>
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</table>
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
- Compact design
- Tool free SSD/HDD access
- System fan
- Complete solution

Dimensions of Chassis

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<th>Length</th>
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<td>DPX-S2450</td>
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<td>124mm</td>
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<td>DPX-S2445</td>
<td>214mm</td>
<td>260mm</td>
<td>124mm</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 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®-E145
11th Generation Intel® Core™ Processor Gaming Platform

- Powered by 11th Gen Intel Core i3/i5/i7 processors
- Also available with Intel Celeron processors
- CPUs up to Dual 3.0 (3.9) GHz, Quad core 2.8GHz (4.4) GHz
- Intel Iris Xe Graphics
- 4 x 4K monitor support
- Comprehensive gaming features
- Passive cooled system up to 28W

Features

Digital I/O
- 32/32

Battery Backed SRAM
- 8MB

4 x DP++

Expansion I²C

7 x USB 2.0
- 2 x USB 3.0

9 x COMs:
- ccTalk, RS232, ID003, RS485, TTL

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

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

DPX Security Suite: Media Validation Toolkit, TPM Support, DPX Security Features & BIOS Customization

Enclosure Metalwork Optional

On-board Microcontroller PuC
DPX®-E140
AMD Embedded Gaming System with V1000/R1000 Platform

- AMD Ryzen Embedded V1000/R1000 Processors
- High performance Radeon VEGA series graphics
- 4 x 4K monitor support
- Comprehensive gaming features
- Passive cooled system up to 25W, 54W with fan cooler
- 12V DC single input or ATX power

Features

- Digital I/O 32/32
- 7 x USB 2.0
- Battery Backed SRAM 8MB
- 9 x COMs: ccTalk, RS232, ID003, RS485, TTL
- 4 x DP++
- M.2, SATA DOM, HDD, SSD, CFast, USB
- Expansion I²C
- DPX Security Suite: Media Validation Toolkit, TPM support, DPX Security Features & BIOS Customization
- DPX-Software: Embedded OS, DPX Diagnostics, DPX-Connector & DPX-SAS
- Enclosure Metalwork Optional
- On-board Microcontroller PuC
DPX®-M Series

• Sports betting  •  Kiosk  •  Arcade  •  Gaming

• Based on 8th & 9th Gen Intel Core 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-Innocore has a range of standard “add-on cards” for sports betting or gaming Sub system.
DPX®-M266
AMD Ryzen™ Embedded R2000 Multi-media Gaming Board

• High performance AMD Ryzen Embedded R2000 processors
• Quad and dual core APUs up to 3.35 (3.7) GHz
• Supports 4 display outputs (4 x DP v1.2)
• PCIe x16 graphics card slot
• Modular Expansion Port - Edge connector
• Storage 2 x SATA / CFast, 1 x M.2
• Secureboot Media Validation support
• RS232, ccTalk, TTL, ID003, I2C, Intrusion and DIs

Features

Digital I/O
32/32

3 x USB 2.0
2 x USB 3.0

4 x DP++

6 x COMs: ccTalk, RS232, ID003, RS485, TTL

Expansion

Enclosure Metalwork
Optional

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

On-board Microcontroller
PuC

DPX Security Suite: Media Validation Toolkit, TPM Support, DPX Security Features & BIOS Customization

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

SCAN ME for more information!
DPX®-M270
8th & 9th Generation Intel® Core™ Processor Embedded Multi-Media Gaming Board

- Powered by 8th & 9th Gen Intel Core processors (available with Intel Core i3/i5/i7, Intel Pentium & Intel Celeron)
- Two 260-pin SO-DIMM up to 32GB DDR4 2666 MHz SDRAM
- Supports 3 x display outputs (2x DP++, HDMI)
- PCIe x16 Gen 3.0 graphics card slot
- Storage 2 x SATA with 1 x M.2
- Media Validation Toolkit support
- RS232, ccTalk, TTL, ID003, I²C, intrusion and digital inputs
- Modular expansion port - Edge connector

Features

Displays
2 x DP++
1 x HDMI
(3 simultaneous for Q370, 2 simultaneous for H310)

Onboard:
8 x USB 2.0
4 x USB 3.1
Via Golden Fingers:
2 x USB 2.0

DPX Security Suite: Media Validation Toolkit, TPM Support, DPX Security Features & BIOS Customization

Graphics Cards
PCIe x 16 Format

6 x COMs:
ccTalk, RS232, ID003, TTL

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

Expansion I²C, PCIe x 16 and Sidebus Modular Expansion

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

Enclosure M1000 & M2000

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

- Supports 4 x DP++
- 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 / 2 x CFast / 1 x M.2
- AMD Ryzen Embedded V1000 processors
- Media Validation Toolkit support

Digital I/O
- 2 x DI

Displays
- 4x DP++
- 4 (simultaneous)

Graphics Cards
- PCIe x 16 Format

Expansion I²C, PCIe x 16 and Sidebus Modular Expansion

Onboard:
- 4 x USB 2.0
- 3 x USB 3.1

Via Golden Fingers:
- 2 x USB 2.0

6 x COMs:
- ccTalk, RS232, ID003, RS485, TTL

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

DPX Security Suite: Media Validation Toolkit, TPM Support, DPX Security Features & BIOS Customization

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

Enclosure
- M1000 & M2000

On-board Microcontroller
- PucLite
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

### Dimensions of Chassis

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<th>Length</th>
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<tr>
<td>DPX-M1000</td>
<td>232mm</td>
<td>295mm</td>
<td>104mm</td>
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<tr>
<td>DPX-M2000</td>
<td>242mm</td>
<td>296mm</td>
<td>134mm</td>
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The DPX-J100 is the latest addition to the DPX family of integrated gaming platforms. Based on the revolutionary AMD R1000/V1000 Series embedded platform, the DPX-J100 uses AMD’s latest cost effective dual and quad core SOC devices with “Discrete-level Graphics” from the best-in-class integrated VEGA graphics core. Three independent monitors can be supported. A full set of I/O, COMs and security features designed specifically for gaming devices is also included, making the DPX-J100 an ideal platform at an economical price point for many gaming, amusement and kiosk applications. Passive cooling for the lower APUs allows for robust, maintenance free operation in the harshest gaming environments.

Feature Highlights

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

Features

- Digital I/O
  - 24/29
- Expansion
  - I2C, Mini PCI
- DPX Security Suite (as below)
  - iButton
- DPX-Software: Embedded OS , DPX Diagnostics, DPX-Connector & DPX-SAS
- Optional Enclosure
- Onboard Audio Amplifier,
  - Line Out, Digital SPDIF Out
- SATA DOM, SSD, HDD, M.2, USB, CFast
- On board Microcontroller

- Up to 2MB of Battery Backed FRAM
- 6 x USB: 4 x 2.0 - 2 x 3.1/2.0
- 1 x DP++, 1 x HDMI and 1 x VGA
- 6 x Coms – RS232/485 Tx/Rx
The DPX-J100 system is a gaming system logic box 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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<tr>
<td>DPX-J100 system</td>
<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, with everything you need to begin developing on DPX hardware platforms, delivered to you, fully tested and ready to go (with up to date drivers) 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
- Demo and reference source code
- I/O development board, power supply and 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:

- Source code
- DPX chassis
- Demo utilities
- PSU / Dongles
- 128GB Advantech storage
- Demo OS / Linux Image
- Full cable sets
- Motherboard + CPU
- 8GB Advantech RAM
- Complete documentation

SCAN ME for more information!
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, other software products are available including peripheral protocol libraries, security suites, diagnostic and test software designed to help develop the best-balanced gaming solutions.

Board Support Package

Board support packages provide software support for Microsoft Windows embedded OS and embedded Linux OS. 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 Kits are integrated into DPX-Series motherboards to handle 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 understands that the protection of gameplay data and machine state are critical considerations. Software and hardware tampering detection, as well as media validation are key requirements set by gaming regulators. The aim is ‘Player’ and ‘Operator’ protection, fair games and correct pay-outs. As such the DPX range of gaming motherboards come with the following security features as standard:

- TPM Chip
- Random Number Generator (FIPS)
- Password protected i2c port
- 88 Bit Unique ID
- EWF/UWF support
- BitLocker support
- Software authentication
- TCG Opal 2.0 SQFlash products available
- Intrusion detection logging processor (IDLP)

OEM Intellectual Property

Encryption of data and applications, strong password, key storage and platform authentication are all key considerations when choosing a gaming platform; as well as prevention of copying or cloning of game data, stopping unauthorized content from being loaded in order to maintain competitive advantage and protection of investment and IP. Advantech-Innocore’s software solutions combined with hardware features gives you multiple methods to protect your game content.
Featured Gaming Software

Media Validation Toolkit
The Media Validation Toolkit 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 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 generates, 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-Innocore 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 AMI APTIO UEFI BIOS
- Customization
- Field 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 an 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 ccTalk and JCM ID003 devices, as well as Windows and Linux OS.
Slot Accounting System (SAS)

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.

- Fully featured SAS protocol library
- Mature field-proven product
- Approved in all major jurisdictions
- Supports latest versions
- Multi-game support
- Windows and Linux OS
- 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, allowing gaming features and software testing. USB and CD bootable, and comprehensive Windows and Linux OS 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 OS 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), quieter operation, improved security and logging.
Gaming Monitors

Designed exclusively for gaming applications, Advantech’s gaming display solutions provide a wide range of gaming monitors to meet the special requirements of applications such as slot machines and casinos. Solutions include both 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-Innocore gaming platforms for a total gaming solution. Applications include slot machine, lottery terminals, jackpot systems, sports betting terminals, kiosks etc.

HALO Series

**Standard, Front LED and Edge LED**

- **Panel Size: 21.5”**
  - Resolution: 1920x1080@60Hz
  - Brightness: 250 nits
  - Viewing Angles: 89/89/89/89 LRUD
  - Video Inputs: HDMI/DP

- **Panel Size: 23.8”**
  - Resolution: 1920x1080@60Hz
  - Brightness: 250 nits
  - Viewing Angles: 89/89/89/89 LRUD
  - Video Inputs: VGA, DVI, DP

- **Panel Size: 27”**
  - Resolution: 1920x1080@60Hz
  - Brightness: 300 nits
  - Viewing Angles: 89/89/89/89 LRUD
  - Video Inputs: VGA, DVI, DP

- **Panel Size: 32”**
  - Resolution: 1920 x 1080@60Hz
  - Brightness: 400 nits
  - Viewing Angles: 89/89/89/89 LRUD
  - Video Inputs: VGA/DP/HDMI

**Open Frame / Button Deck Touch**

- **Panel Size: 10.1”**
  - Resolution: 1280 x 800
  - Brightness: 500
  - Viewing Angles: 85/85/85/85 LRUD
  - Video Inputs: VGA, DVI
  - P-cap Touch
  - Customizable Buttons
  - Optional:
    - Glass Artwork
    - Integrated Wireless Charger

- **Panel Size: 12.1”**
  - Resolution: 1280 x 800
  - Brightness: 400
  - Viewing Angles: 85/85/85/85 LRUD
  - Video Inputs: HDMI, USB
  - P-cap Touch
  - Customizable Buttons
  - Optional:
    - Glass Artwork
    - Integrated Wireless Charger
CURVED Series

For C and J curved

Panel Size: 32” C Curved/43” in C & J Curved (Non-LED)
Resolution: 2560 x 1440@144Hz (32”) / 3840 x 2160@60Hz (43”)
Brightness: 250nits (32”) / 500nits (43”)
Viewing Angles: 89/89/89/89
Video Inputs: HDMI/DVI/DP/USB (Type B)

Panel Size: 43” in C & J Curved
Resolution: 3840 x 2160@60Hz
Brightness: 500nits
Viewing Angles: 89/89/89/89
Video Inputs: HDMI/DVI/DP/USB (Type B)

EDGE Series

Zero Bezel

Panel Size: 10.1”
Resolution: 1280 x 800@60Hz
Brightness: 500nits
Viewing Angles: 85/85/85/85
Video Inputs: VGA/DVI/USB (Type B)

Panel Size: 17”
Resolution: 1280 x 1024@60Hz
Brightness: 250nits
Viewing Angles: 85/85/80/80
Video Inputs: HDMI/VGA/USB (Type B)

Panel Size: 19”
Resolution: 1280 x 1024@60Hz
Brightness: 250nits
Viewing Angles: 85/85/80/80
Video Inputs: HDMI/VGA/DP/USB (Type B)

Panel Size: 21.5”
Resolution: 1920 x 1080@60Hz
Brightness: 250nits
Viewing Angles: 89/89/89/89
Video Inputs: HDMI/VGA/USB (Type B)

Panel Size: 27”
Resolution: 1920 x 1080@60Hz
Brightness: 300nits
Viewing Angles: 89/89/89/89
Video Inputs: HDMI/VGA/DVI/USB (Type B)
Advantech gaming peripherals offer specialized, quality components with long lifecycle support for our gaming platforms. All peripherals are fully compatible with Advantech-Innolite 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
- iButtons
- 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 DDR5, 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 offers a comprehensive product line of graphic card solutions specifically designed for diverse industrial applications needing high processing and imaging technology. 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.
Advantech-Innocore understand that game developers and cabinet makers need to make their product stand out in the crowded casino floor, as well as thinking about the end user and their experience. The DPX-LED Controller is an key component in the developer’s tool box allowing ideas and visions to be transferred from sketch pad to the big screens of the casino floor. With the capability to drive up to 4000 individual LED’s, and complimented by an easy to use GUI, (Graphical User Interface) the DPX-LED Controller is the perfect tool to develop, test and control your gaming cabinet lighting.

**Features and Functions**

- Industrial grade product
- Robust metal cover
- Watchdog timer
- Long term availability
- Custom Vibrance FX application for easy detailed content creation

**Power**

- Supports 12V or 5V LED’s
- Can be powered by a single 5V or 12V discrete PSU

**4096 LEDs**

- Up to 4000 LED’s can be PWM driven Supports ‘tri’ or ‘quad’ colour addressable LEDs

**USB Connectivity**

- USB connectivity to DPX motherboard or standalone

**LED Compatibility**

- 16x 1-Wire channels or 8x 2-Wire LED channels – user configurable
- 1-Wire and 2-Wire type supported

**Other Features**

- Up to 64 discrete pattern sequences
- Up to 4 x layer FX creating depth
- 16 Clock domains
- Pattern sequence position updates
- Drop-in Fadecandy replacement
Gaming Platform and Customization Services

Service Overview

Advantech-Innocore's capability to provide customers with reliable computing solutions is not limited to the wide range of standard products. Custom designs requirements are welcome ranging from small modifications of one of the existing DPX products, to completely new product designs; 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 and AMD select partner

- In-house design validation (EMC, signal integrity, thermal, vibration and 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>
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<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>
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<tr>
<td>• Various security solutions</td>
<td>• BIOS Security extension code</td>
<td>• Integration of customer’s hardware</td>
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## Gaming Computing Platforms

### Standalone Series

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<th>DPX-S455</th>
<th>DPX-S2450</th>
<th>DPX-S450</th>
<th>DPX-S2445</th>
<th>DPX-S445</th>
<th>DPX-S2451</th>
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<td>DPX Gaming Board</td>
<td>DPX Gaming System</td>
<td>DPX Gaming Board</td>
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<td>AMD Ryzen Embedded V1000/R1000 APU</td>
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<td>AMI APTIO UEFI (Gaming optimised)</td>
<td>AMI APTIO UEFI (Gaming optimised)</td>
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<td><strong>Controller</strong></td>
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<td>32 (ESD protected)</td>
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<td>I2C, Precision RTC, ATX or 12VDC power</td>
<td>I2C, Precision RTC, ATX or 12VDC power</td>
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## Economy Series

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<td>in APU (AMD Radeon VEGA series graphics engine)</td>
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<td>20W+20W (FL, FR)</td>
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<td>AMI APTIO UEFI BIOS</td>
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<td>in APU (AMD Radeon VEGA series graphics engine)</td>
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<td>DPIC</td>
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<td>DPIC Connector</td>
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<td>Peripheral Libraries</td>
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<td>Embedded OS Support</td>
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<td>BIOS Customization</td>
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<td>DPIC SAS Connector</td>
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<td>Media Validation Toolkit</td>
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<tr>
<td>Other Features</td>
<td>12VDC for V1605, S, 12V JAMMA input for R series</td>
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**Gaming Computing Platforms**
## Modular Series

<table>
<thead>
<tr>
<th>Model Name</th>
<th>DPX-M266</th>
<th>DPX-M270</th>
<th>DPX-M1270</th>
<th>DPX-E265</th>
<th>DPX-E1265</th>
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<td><strong>Form Factor</strong></td>
<td>Extended Mini-ITX</td>
<td>Extended Mini-ITX</td>
<td>DPX Multimedia Gaming System</td>
<td>Extended Mini-ITX</td>
<td>DPX Gaming System</td>
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<td><strong>Processor</strong></td>
<td>AMD Ryzen Embedded R2000 APU</td>
<td>Intel 8th &amp; 9th Gen. Core-i7/15/13</td>
<td>AMD Ryzen Embedded V1000 APU</td>
<td>AMD Ryzen Embedded V1000 APU</td>
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<td>Q370/H310</td>
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<td>AMI UEFI SPI with Secureboot support</td>
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<td>PCIe x 16 Gen3</td>
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<td>8x PCIe x1, 4x PCIe x4 (with R2312 APU)</td>
<td>8x PCIe x1, 4x PCIe x4 (with R2312 APU)</td>
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<tr>
<td><strong>Controller</strong></td>
<td>Radeon VEGA GPU with up to 8 compute units</td>
<td>Intel UHD Graphics 630</td>
<td>Intel UHD Graphics 630</td>
<td>Intel UHD Graphics 630</td>
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<td>2 x DB-9 RS-232 full signal, supports 9 bit data</td>
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