Innovations in Gaming Computing

The Widest Range of Solutions for the Gaming Industry





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IoT Solutions Alliance Premier

www.advantech-innocore.com



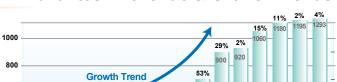
Global Strength

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 \$1Bn Advantech Group, Advantech-Innocore stands alone among hardware suppliers in its capabilities to support customers large and small in all regions of the world.

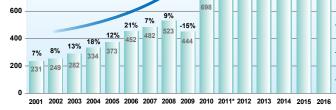
Revenue in millions, USD

Advantech

- Revenue USD \$1293 Million (2016)
- World's largest Industrial PC supplier with 29% WW share
- More than 8,000 employees
- Worldwide presence, 21 countries, 91 cities
- 1,100 engineers in R&D
- 100% owned manufacturing facilities in China and Taiwan (>130,000m²)



Advantech Revenue & Growth Trends



Year 2002-2016

Focused Gaming Team

- Customer focus and expert support
- Dedicated Gaming Industry Sector team with >15 years experience
- · Local Presence (see map on rear cover) to support its customers
- Advantech Care after sales support packages
- Design and Manufacturing in-house
- DPX Gaming Products
- Broad line up of other vertical market solutions, peripherals and accessories

Specialized Gaming Products

- High performance and scalable industrial PC platforms
- Intel IoT Solution Alliance Member, AMD Select Partner and Windows Embedded Gold Partner
- High level of integration and gaming specific feature sets ("one board does it all")
- Hardware features to meet international regulatory requirements
- Worldwide regulatory approvals
- Long product lifecycles
- Strict configuration control, revision control and EOL (end of life) management
- Hardware roadmap provides backward compatibility and easy migration to new technology

A Comprehensive Technical Knowledge of the Industry

- World wide product install base of many hundreds of thousands
- BIOS, Hardware and Software/Firmware teams
- Existing jurisdictional approvals means faster approvals for new customers and new products (lower risk, shorter time to market)
- Corporate strengths and capabilities of Advantech







Excellence in Design

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, we design for robust, reliable operation as well as longevity rather than solely focusing on cost. Careful attention is paid to signal termination, power supply design, EMC and signal integrity. Thermal management is also taken into account during the design and testing stages to ensure that product performance is optimized for varied environments including casinos, arcades, etc. where operation is 24 hours a day, 365 days a year.

Understanding the environment and regulatory constraints of a gaming machine allows our design engineers to add features that solve problems before they arise: simple things such as mechanical attachment of heatsinks, providing positive latching on connectors, retaining clips for compact flash cards, design for easy assembly and field maintenance and so forth.

Excellence in Manufacturing

Advantech owns all its manufacturing facilities and this in- house capacity makes the company a unique vertically integrated designer-manufacturer.

- Wholly owned manufacturing facilities (>130,000m²)
- State-of-the-art production equipment
- Highest yield rates
- Best quality
- BGA X-Ray inspection
- Automated test routines
- Elevated temperature burn-in



Advantech's New Manufacturing and Design Center in Linkou, Taiwan

Excellence in 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.

- Dedicated gaming products supplier
- Quality Assurance, consistency and fulfillment (in house manufacturing)
- Knowledgeable technical support
- Local support, service and repair/RMA
- · Local inventory and fulfillment capabilities
- AdvantechCare Service Packages: advanced replacements, extended warranty, guaranteed turnaround time

International Quality Standards

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.



The Widest Range of Standard Gaming Products

Advantech-Innocore is dedicated to providing advanced gaming solutions for customers. We offer the widest range of industrial grade computer products designed specifically for the 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, and Pachislots.



Gaming Platforms & Systems

Standalone (S Series)



The DPX-S Series products provide extremely integrated industrial single board computers and systems that offer unrivalled performance range, scalability, long lifecycle and low power.

• Full feature set of I/O, COMs, and security features

• Product are developed specifically to meet the requirements of the gaming industry

Gaming Platform: DPX-S435 DPX-S440 (NEW) DPX-S445 (NEW) Gaming System: DPX-S1435 DPX-S2440 (NEW) DPX-S2445 (NEW)

Economy (E Series)



The DPX®-E Series products are complete industrial computer systems offering 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
- Gaming functions share the same API as the other DPX^o- series boards
 Easy to part application code and lowerage the different price and perform
- Easy to port application code and leverage the different price and performance points across Advantech-Innocore's full range of products.

DPX®- E135 DPX®- E250 (NEW)

Industrial Motherboards, Computer-on-Modules and RISC Computing Platforms



Advantech's large range of Industrial Motherboards, COM Express Modules and RISC Products are ideal for gaming applications where the I/O and dedicated gaming features of the DPX Range are not needed. They offer the best in cost, performance and longevity. GMB and AIMB products can be used with Advantech standard chassis and power supplies to provide a complete system solution. Advantech's large range of COM modules provides flexibility to upgrade your CPU power and provide second source solutions for existing projects. Advantech's RISC based motherboards, COM modules and boxed systems are ideal for applications such as player tracking.

Industrial Gaming Monitors

Advantech provides a wide range of gaming monitors to meet the special requirements of application. These display solutions feature weigescreens, reliable touch screens and flexible mechanical designs that can be integrated with Advantech gaming platforms for a total solution.

- Screen sizes from 6 inches to 60 inches
- High resolution up to 4k
- High performance, wide view angle, and high brightness
- Touchscreens Capacitive, SAW, and Projective capacitive (PCAP)
- Options for bezels, housings, analog-digital controller card
- Unique technical features including remote management, anti-vandal, intelligent displays.
- Curved display supports 1500R/1800R curvature options
- Triptic software solution



Peripherals and Other Products

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 many accessories and peripherals including:

- Long lifecycle graphic cards
- Storage devices HDD, CF, C-Fast, SSD
- Embedded operating system licenses
- Backplanes and Connector Boards
- RAM and numerous CPU options
- iButton®s
- Enclosures



More than 900 Advantech products : www.advantech.com



Gaming Software

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.

Overview of Firmware & Software Packages				
Board Support Packages	Security	Firmware / BIOS	Utility / Development	
Drivers and Utilities	SecureBoot™	Customer Logo and Settings	DirectPCI API	
DirectPCI SDK & Run-Time	TPM Suite	TCG CRTM BIOS (TPM)	DPX [®] Connector SDK	
Embedded OS Support		Custom BIOS Code	DPX [®] SAS Engine	
Custom Embedded Linux			DPX [®] Diagnostics	

Board Support Packages

A comprehensive, reliable set of drivers and APIs for Advantech-Innocore's DPX[®]-Series hardware. Board support packages provide edge-to-edge software support. For each DPX[®]-Series main-board, a full set of drivers is supplied for all standard PC functions as well as all the gaming specific hardware features. BSPs are provided for Microsoft[®] Windows[®] including embedded Windows[®] and for a range of Linux[™] distributions.

Security

Two significant security packages offer customizable protection for your software and hardware investment: SecureBoot[™] is aimed at markets where boot-time verification must be provided over the software that runs. TPM Suite is used for securing the game environment against copying and tampering, as well as providing platform authentication and access control solutions. Both products include BIOS-level updates that ensure continued effectiveness.

Firmware/BIOS

Advantech-Innocore provides gaming-specific firmware and software customization services that deliver the superior performance, compatibility and functionality that is expected by manufacturers of gaming platforms. Customized BIOS images are available for DPX®-Series main boards including logo, default settings, and custom BIOS ROM code.

Utility/Development

Advantech-Innocore offers a range of software packages to meet a variety of communication needs when adding peripherals to a gaming system.

DirectPCI SDK & Run-time provides API libraries, demo code and utilities for handling peripherals that need or provide on/off control; DirectPCI also services all the onboard gaming facilities.

The OneWire/ iButton® API allows access to all Dallas/Maxim iButton®s and OneWire protocol devices.

DPX® Connector SDK provides access to money handling peripherals and ticket-printers; protocols include ccTalk, ID003, EBDS, PSA66, and EPIC950.

DPX[®] **SAS Engine** provides a framework for game software to communicate with a SAS Host system as part of casino management.

DPX® Diagnostics provides a set of test software to establish confidence in the hardware platform and/or build into the game's self-diagnostic function; test source code and user interface are both included.

Gaming Platform Customization Services



Hardware Design Services	Firmware and OS design services	System Design Services
Custom CPU board designs	• Embedded OS support	Custom enclosures
• Intel®, AMD, and RISC platforms	• OS image development	Thermal simulation
GPU design and integration	• FPGA, microcontroller custom firmware	Peripheral integration
• Custom I/O	BIOS customization	System validation (thermal, vibration, EMC, HALT etc)
Various security solutions	BIOS Security extension code	Integration of customer's hardware



Casino Machines

With the increasing popularity of gaming and gambling, there is a growing number of casinos worldwide. Casino machines, known variously as slots, video poker, fruit machines, etc., offer people a chance to participate in gaming entertainment, with its lure of possible payouts, for a very modest investment. To serve the huge market, Advantech-Innocore provides a wide range of high performance platforms for casino machine game developers and system integrators. Our platforms allow customers to concentrate on their game development, not complex hardware issues. We provide high performance hardware platforms, complete software and firmware solutions, and in-depth customer support/industry knowledge.



VLTs/Class II

AWPs

The largest segment of the gaming industry is the street machines, AWP - the onearmed bandits or fruit machines segment. Typically located in places of amusement, bars, convenience stores and arcades, these machines provide low jackpots for small stakes compared to machines in licensed casinos. Advantech-Innocore provides a range of platforms for the AWP segment where low cost as well as reliability and long production lifespan are important factors. Many of these platforms offer the same level of security and gaming-optimized I/O as our casino platforms but at lower cost points.

Although somewhat less strictly regulated than electronic gaming machines for the casino and Class III markets, gaming machines for Class II/VLT are increasingly employing similar levels of computer performance. Features such as two and threescreen cabinets as well as 3D graphics and attractive multimedia effects are becoming common in Class II and VLT machines. Advantech-Innocore's DPX[®] range of products is in use in many such machines around the world, providing the high level of multimedia performance required as well as all the I/Os and COMs on a single platform.





Multiplayer Games

Multi-player electronic gaming machines are popular in some markets where players may prefer electronic games over table games with live dealers. These games are typically regulated to the same level as other casino games, and as such Advantech-Innocore's range of products is well suited for use in multiplayer games. In particular the "E Series" products offer the same level of security and gaming optimized I/O as our casino platforms but at a lower cost point, with lower power requirements, and some models are also fanless.

Arcade

Arcade games have always had their core youth following, but as technology and creativity continue to increase, older generations are also becoming attracted to the challenge that newer and updated games offer. In the past, arcade game providers typically handled development and production inhouse, but as times and the global economy have changed, more have begun to outsource total solutions, rather than just a few select components. In addition, systems that were formerly based on RISC technology are now switching to the more widely used x86 platform.





Pachislot

As times and technologies have changed, pachinko/pachislot too have evolved to a higher level. Open-frame LCD panel solutions are widely applied in pachinko/pachislot machines for integrating with gaming graphic display controllers and MPEG2/4 video decoders. We offer a wide range of sizes in cost-effective, open-frame LCD displays and compact sized low cost motherboards to reduce project budgets. Advantech-Innocore also provides API tools for shortening application development cycles, and we even offer an I/O card for controlling the ball sensor and push buttons.



Gaming Software

Other Features

Embedded OS Support

BIOS Customization TPM Suite

DPX SAS Connector

SecureBoot

		Standalone Series				
		NEW NEW				
Model	Name	DPX®-S2445 DPX®-S445	DPX®-S2440	DPX®-S440	DPX® -S1435	DPX®-S435
Form Facto	or	DPX [®] Gaming System DPX [®] Gaming Boa	System	DPX [®] Gaming Board	DPX [®] Gaming System	DPX® Gaming Platform
	CPU	Intel [®] 6th / 7th Generation Core [™] i		neration R-Series amed Merlin Falcon)	Intel® 4th Generation Core™ i	Intel [®] 4th Generation Core™
	Socket	LGA 1151	E	BGA	LGA1155	LGA1155
Processor	max. speed	2.9 GHz (3.8) GHz	2.8 (2	3.4) GHz	2.77GHz	2.77GHz
System	TDP	54W		35W	45W	45W
	Chipset	Q170		SOC		Q87
	BIOS	AMI APTIO UEFI (Gaming optimised)	AMI APTIO UEFI	(Gaming optimised)	AMI UEFI 32Mb	AMI UEFI 32Mb
	PCI	-		-	-	-
Expansion	MINI PCIe/mSATA	-		-	-	-
Slot	PCIe	PCle x 16	PCle x 16	5 (x 8 mode)	PCle x 16	PCle x 16
	MXM			-		-
Memory	Technology	Dual Channel DDR4 2400MHz	Dual Channel	Dual Channel DDR3 2133MHz		Dual Channel DDR3 1600MHz
	Max. Capacity	16GB	1	16GB		16GB
	Socket	2x SODIMM	2x S	2x SODIMM		2x SODIMM
	Controller	in CPU (GT2-530)	in APU - Rade	on R7 (HD10000)	in CPU (HD4600)	in CPU (HD4600)
	VGA	-		-	1	1
Graphics	DVI	-		-	2	2
	DP	3		3	1	1
	HDMI	-		-		-
Ethernet	LAN1	GbE		GbE		GbE
Luionior	LAN2	GbE	(GbE		GbE
	SATA	2		2		3
Storage	CompactFlash	-		-	- 2	-
	Cfast	-		2		2
	VGA/DVI/HDMI/DP	0/0/0/3	0/	0/0/0/3		1/2/0/1
	Ethernet	2 9		2		2
	USB 2.0 USB 3.0	2		8		4
Rear I/O	Audio	1 (ch5.1), SPDIF	1 (ch5	3 1 (ch5.1), SPDIF		1 (ch5.1)
	Serial Ports	10		10		10
	Serial Type RS232/	10/2/1/1		/2/1/1	10	10
	Cctalk/TTL/485 SRAM	8MB		3MB	8MB	8MB
	ROM Scokets	SPI ROM module		M module	PLCC	PLCC
	TPM	TPM 2.0/1.2		2.0/1.2	TPM1.2	TPM1.2
Gaming Hardware	Audio Amplify	15W+15W+15W (FL,FR, LF)		15W (FL,FR, LF)	13W+13W+13W (FL,FR, LF)	13W+13W+13W (FL,FR, LF)
	Digital Inputs	32 (ESD protected)	32 (ESD	protected)	32 (ESD protected)	32 (ESD protected)
	Digital Outputs	32 (OC 500mA 50V)		500mA 50V)	32 (OC 500mA 50V)	32 (OC 500mA 50V)
	Intrusion Inputs	8		8	8	8
	iButton® / GPI0	2		2	1	1
	DPCI Expansion	-		-	1	1
	Watchdog Timer	1		1	1	1
	Dual BIOS	-		-	Yes	Yes
	DPCI Advanced Gaming API & Runtime	Standard	Sta	indard	Standard	Standard
	DPX Connector Peripherals Libraries	Standard	Sta	indard	Standard	Standard

Standard

Optional

Optional

Optional

Optional

LED lamp driver, I2C, Precision RTC, ATX or 12VDC power

Standard

Optional

Optional

Optional

Optional

Standard

Optional

Optional

Optional

Optional

Standard

Optional

Optional

Optional

Optional

I2C, Precision RTC, ATX or 12VDC power

— Economy Series —





Model Name	2	DPX®-E135	DPX®-E250
Form Factor		DPX [®] Gaming System	Extended Mini-ITX
CPU		AMD Embedded G-Series APU	Intel 4th Generation Core-I
Sock	ket	BGA	LGA 1150
rocessor max	. speed	2.4 GHz	3.7 (4.0) GHz
ystem TDP		25W	65W
Chip	oset	SOC	Q87
BIOS	3	AMI APTIO UEFI (Gaming optimised)	AMI APTIO UEFI (Gaming optimised)
PCI		-	-
pansion MINI	I PCIe/mSATA	-	2
ot PCIe)	-	PCle x16
MXN	Л	-	-
	nnology	Dual Channel DDR3 1866MHz	Dual Channel DDR3 1600MHz
emory Max.	. Capacity	16GB	16GB
Sock	ket	2x SODIMM	2x SODIMM
Cont	troller	in APU - Radeon (HD 8000)	in CPU (HD4600)
VGA		1	0 (VGA signals in DVI-I)
raphics DVI		-	2. DVI-I, DVI-D
DP		2	1
HDM	11	-	-
hernet	1	GbE	GbE
LAN2	2	GbE	GbE
SATA		2	2
	pactFlash	-	-
Cfas		2	-
	/DVI/HDMI/DP	1/0/0/2	0/2/0/1
Ethe		2 7	2 6
USB USB		2	4
ear I/O USB Audi		1 (ch5.1), SPDIF	1 (ch2.1)
	al Ports	10	6
Seria	al Type RS232/	4/2/1/1	5/0/0/1
	alk/TTL/485		
SRAI		8MB SPI ROM module	-
TPM	I Scokets	TPM 2.0/1.2	- TPM 2.0/1.2
			11 11 2.0/ 1.2
Audi	io Amplify	20W+20W	-
aming Digit	tal Inputs	32 (ESD protected)	-
ardware Digit	tal Outputs	32 (OC 500mA 50V)	-
	usion Inputs	8	-
	ton® / GPIO	1	8
	Expansion	- 1	- 1
	chdog Timer I BIOS	-	-
DPCI	Advanced Gaming & Runtime	- Standard	- N/A
DPX	Connector	Standard	Standard
	pherals Libraries bedded OS Support	Standard	Standard
oftware	S Customization	Optional	Optional
	I Suite	Optional	Optional
	SAS Connector	Optional	Optional
	ureBoot	Optional	Optional
Other Features		LED lamp driver, I2C, Precision RTC, ATX or 12VDC power	SIM card, ATX or 12VDC power, LVDS



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ADVANTECH INNOCORE

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