Quixant

Think outside the box

QXi-6000 THE GATEWAY TO THREE-SCREEN GAMING

The QXi-6000 is a complete PC-based gaming platform designed to drive to pay-to-play gaming machines. It has a comprehensive feature set designed to address all the requirements for powering the latest generation of gaming machines.

- **Supports up to three independent HD monitors with Q-Port™ single cable touch monitor and daisy chain support**
- **AMD Embedded R-Series SoC with integrated AMD Radeon™ HD 10000 Series graphics**
- **Fan-less operation**
- **Advanced PCI Express® gaming logic and NVRAM**

Ultra high performance AMD Embedded R-Series SoC

The latest AMD Embedded R-Series SoC combines Dual or Quad 64-bit "Excavator" cores clocked at up to 2.1 GHz (3.4 GHz with boost) with AMD Radeon™ HD 10000 series graphics to deliver unrivalled processing and graphics performance for the latest generation of games. By leveraging the benefits of its Heterogeneous System Architecture (HSA), the CPU and graphics processing units work together to boost parallel processing performance. Hardware 4K encode and H.265 4K video decode provide stunning video quality and performance.

Multi-screen graphics capabilities

Capable of driving up to three independent displays with support for the latest DisplayPort 1.2 standard, including Multi-Stream Transport for daisy-chaining of multiple monitors from a single DisplayPort cable.

Quixant Advanced PCI Express® gaming logic

Up to 16MBytes of fast, battery backed NVRAM (with an option for MRAM) in four physical banks. Hardware mirroring and CRC operations. Up to 32 interrupt driven digital inputs and outputs. Twelve intrusion inputs and six PCI Express® QXCom™ serial ports.

Advanced Security Features

Advanced hardware security engine incorporating 128-bit PCI Express® AES hardware encryption/ decryption (128/256 – ECB/CBC), hardware RSA 2048 engine, embedded TCG 1.2 compliant TPM, built-in serial number & SHA-1 acceleration chip.

Fan-less operation, small form factor

High efficiency components and innovative Quixant case design enable the QXi-6000 to be operated without fans, improving reliability and reducing noise and power usage. Physically compact case.

Complete Software Suite

Device drivers, gaming protocols including SAS 6.02, secure customisable BIOS. Full support for Windows Embedded and Linux.

Long supply lifetime

Embedded design with 5-year lifetime from launch.

Market compliance

Meets the requirements of GLI-11 and all major global gaming jurisdictions.

FOR MORE INFORMATION: sales@quixant.com

www.quixant.com

QXi-6000 General Features

- **Compact, all-in-one solution**
- **Supports up to 3 independent screens**
- **Fan-less operation**
- **Embedded roadmap- long supply lifetime**
- **Single +12V or +24V (nominal) power input**
- **Dimensions: 274 x 173 x 90 mm (L x W x H)**

APU

AMD Embedded R- Series SoC

- Dual or Quad 64-bit "Excavator" cores
- Core frequencies up to 2.1 GHz (up to 3.4 GHz with boost)
- Up to 2MB MB L2 Cache
- AVX 1.0/1.1 AES, SSE4.1 & 4.2, XOP & FMA4 instructions
- Low power (35W max TDP) design

Graphics

Integrated AMD Radeon™ HD 10000 graphics

- Up to three independent HD/4K displays from the APU with support for DisplayPort 1.2, HDMI™ 1.4/2.0 and DVI displays
- Q-Port™ interface enables connection of Q-Port™ touch screen monitors using a single cable
- HSA (Heterogeneous System Architecture) 1.0 compliant with support for hUMA technology
- Graphics Core Next (GCN) architecture
- DirectX® 12, OpenGL™ 4.2, OpenCL 1.2, VCE 3.1 & UVD 6
- UVD6.0 hardware decode of 4K60 H.265/HEVC, 4K H.264 AVC, VC-1, MPEG-2, MPEG-4, DivX
- VCE3.1 hardware encode of 4K H.264 video

Main Memory

- 2 x DDR4-2133 (PC4-17000) SO-DIMM Sockets
- Up to 32 GBytes main memory, 128-bit bus

Communication Interfaces

6 x PCI Express® QxCom™ serial ports

- 16550 compatible
- Advanced hardware SAS protocol capability
- 9-bit hardware management
- Hardware timestamping of arriving bytes
- RS232, RS485, ID003 and dual ccTalk interfaces

2 x PCI Express® Gigabit LAN controller
2 x USB 3.0 ports (front panel) and 2 x USB 2.0 ports (front panel)
Meter Power detection
SPI header for clock serial peripherals (e.g. SEC meter)
I²C Interface
iButton interface

Power requirement

Simple single nominal input (12V or 24V)

- No extra ATX PSU – uses standard cabinet PSU
- Low total power consumption for low heat and energy efficiency

Storage

- 2 x CFast sockets up to 6GB/s
- 2 x SATA 3.0 sockets up to 6Gb/s (for SATA DOM with selectable power on pin7, SSD, HDD)
- 256Bytes of user EEPROM storage (optional up to 128KBytes)

Gaming Hardware

Up to 16MBytes of NVRAM

- Battery backed SRAM or optional MRAM
- Lithium primary or optional Lithium Pentoxide rechargeable cells
- Ultra-fast 64-bit PCI Express® connection
- Hardware accelerated memory bank mirroring and CRC support
- 5-year battery life

Battery powered logging processor

- 12 monitored intrusions, including 4 available externally
- Supports standard and opto switches
- Date/time stamped recording of 64 events
- Auto system switch on (time)
- Programmable watchdog timer
- Battery voltage monitoring & warning
- Automatic meter handling

Advanced digital I/O connected via PCI Express® bus

32 digital inputs

- Individually configurable for interrupt generation
- Trigger on rising or falling edges or both
- Input pulse width screening
- Configurable hardware debounce filtering

32 digital outputs

- Output overload protection
- Detection and reporting of open and short circuits

Security

- Advanced hardware security engine
- Hardware AES128/256 - ECB/CBC
- Secure Key storage
- Unique electronic serial number
- SHA-1 chip/ EEPROM write protection support
- TPM security device

Audio

High Definition Audio

- 7.1 Audio channels
- 2 x stereo 18W/channel digital amplified outputs

BIOS

BIOS optimised for gaming

- Hardware validation of BIOS via secure hash algorithm
- BIOS validation of boot drive via secure hash algorithm
- Write-protection of BIOS ROM
- Fully customisable

Software

Full software support for Windows Embedded and Linux

- 32 and 64-bit OS support
- Static, dynamic and .NET libraries
- Example code and demo software available

Protocol software

Quixant supplied communication & peripheral protocols

- SAS 6.02 Generic COM Port driver (with 9-bit support)
- JCM ID003, MEI, ccTalk (including MD100 and JCM Vega devices support)
- Futurelogic, Money Controls, Ithaca
- iButton, I²C devices, generic SPI, SEC Meter
- Others being developed

FOR MORE INFORMATION: sales@quixant.com

www.quixant.com