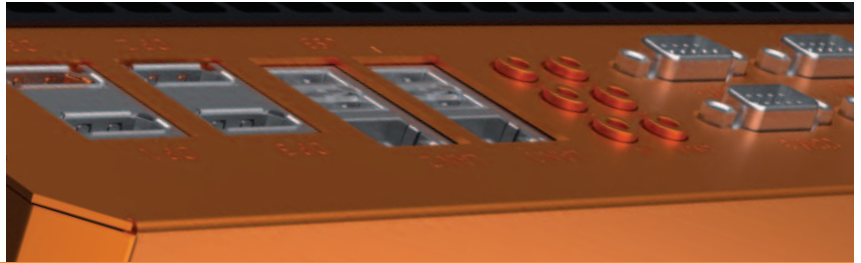


Quixant

Think outside the box



QXi-7000 UNRIVALLED FAN-LESS PERFORMANCE

- Drives up to four independent 4K monitors
- AMD Ryzen™ Embedded V1000 SoC with integrated AMD Radeon™ Vega graphics
- Fan-less operation
- Advanced PCI Express® Gen 2 gaming technology

Ultra high-performance AMD Ryzen™ Embedded V1000SoC

The AMD Ryzen™ Embedded V1000 SoC combines Dual or Quad 64-bit AMD Zen cores (supporting up to four/eight simultaneous threads) with AMD Radeon™ Vega graphics with up to 8CUs. This combination provides unrivalled CPU and graphics processing power for gaming applications. The integrated graphics can drive four DisplayPort 1.4 monitors in full 4K resolution.

Quixant Gaming Ecosystem®

The QXi-7000 leverages Quixant's Gaming Ecosystem®, integrating advanced I/O, NVRAM, communication and security features. This includes up to 16MB high speed PCI Express® Gen2 NVRAM with accelerated hardware mirroring and CR Coperations, support for 32 digital inputs and outputs, up to 16 intrusion inputs and 6 PCI Express® QxCom serial ports.

Newly featured in QXi-7000 is the QxATS Advanced Tracing Sub system which accelerates the development process by providing realtime logging and tracing.

QxVDR (Video Decoder and Rendering software suite) provides hardware accelerated decode of videos incorporating alpha transparency, with the ability to synchronise with a variety of multimedia sources. QxVDR offers a complete and integrated software suite for videos, audio and LED patterns.

QxLED is an integrated hardware and software solution incorporated into the QXi-7000 enabling multiple RGB LED strips to be driven in real time.



Advanced Security Features

Advanced hardware security engine incorporating 256-bit PCI Express® Gen 2 AES hardware encryption/decryption (128/256-ECB/CBC), AMD PSP and SME, hardware RSA 2048 engine, embedded TPM, hardware lock mechanism, built-in unique serial number and SHA-1 acceleration chip.

Complete Software Suite

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

Long supply lifetime

Embedded design with 5 year supply lifetime from launch.

Fan-less design

High efficiency components and an innovative, patented case design enable the QXi-7000 to be operated without fans, improving reliability and reducing noise and power usage. Physically compact case.

Market compliance

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



FOR MORE INFORMATION: sales@quixant.com

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QXi-7000 General Features

APU

AMD Ryzen™ Embedded V1000 SoC

Quad 64-bit Zen Cores

- Multi-threaded architecture supports up to 8 threads
- Quad core configuration supports frequencies up to 2.0GHz (upto 3.6GHz with boost)
- Up to 2MB L2 Cache and 4MB L3 Cache

Integrated AMD Radeon™ Vega graphics

- Up to four independent HD/4K displays from the APU with support for DisplayPort 1.4
- Up to 8 Compute U nits
- Hardware accelerated 4K video encoder/decoder

Main Memory

- 2 x DDR4-2400 SODIMM sockets
- Up to 32GB main memory

Quixant Gaming Ecosystem®

64-bit PCI Express® Gen 2 innovative gaming features

Up to 16MB of NVRAM

- Battery packed SRAM
- Lithium primary or optional Lithium Pentoxide rechargeable cells
- Hardware accelerated memory bank mirroring, copying, verification and CRC support
- Four independent physical banks
- 5-year battery life

Battery powered logging processor

- 16 intrusion inputs (including jumper supervision)
- Supports standard and opto switches
- Date/time stamped recording of 64 events
- Board power status handling
- Double programmable watchdog timers
- Battery voltage monitoring & warning
- Automatic meter handling

Up to 32 digital inputs

- Configurable hardware debounce filtering Trigger on rising or falling edges, or both
- Input pulse width screening for pulse devices

Up to 32 digital outputs

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

Quixant Advanced Tracing System (QxATS)

- System tracing implemented in hardware
- Fixed or very low CPU utilisation
- Simultaneous hardware and software events tracing over Ethernet
- Hardware trigger for system freezing
- Fully manageable by an external software tool (ALCE Tool)

Quixant Video Decoder and Renderer (QxVDR)

- Low CPU utilisation video decoding engine hardware accelerated with alpha transparency
- Can synchronize up to 16 videos simultaneously with LED and Audio
- Alpaca tool for video compression and multimedia integration

Quixant LED software suite (QxLED)

- For designing LED patterns, LED live view and LED pattern simulation - Alpaca software tool.
- QXi-7000 can drive several RGB LED strips simultaneously - no need for external hardware

Security

- Hardware AES128/256 - ECB/CBC
- Unique electronic serial number
- SHA-1 chip / EEPROM write protection support
- TPM security device
- Authentication (hardware lock mechanism)
- AMD Secure Memory Encryption (SME)

- All-in-one solution
- Revolutionary AMD Ryzen™ Embedded V1000 processors
- Supports four 4K Ultra HD monitors
- Embedded roadmap = 5+ years availability
- Single +12V (nominal) power input
- Fan-less design

Communication Interfaces

6 x PCI Express® Gen 2 QxCom™ serial ports

- Ready to use for SAS protocol handling
- 9-bit management in hardware
- Hardware time stamping of arriving bytes
- RS232, RS485, ID003, TTL and dual ccTalk interfaces

2 x PCI Express® Gigabit LAN controller (2 x front panel)

1 x Gigabit LAN interface internal for system tracing (QxATS)

8 x USB ports

- 4 x external USB ports (USB 2 x 3.1, 2 x USB 2.0)
- 4 x internal USB ports (USB 2.0)

Meter Power detection /PSU control

SPI header for clock serial peripherals (e.g. SEC meter) or LEDstrips

I2C Interface

iButton interface

4 x LED strips dedicated interface (to drive 4000+ LED RGB)

Power Requirement

12V / 24V single voltage input

Storage

- 2 x internal CFAST sockets up to 6GB/s
- 2 x SATA III sockets up to 6GB/s (SATA DOM, SSD)
- 256 Bytes of user EEPROM storage (optional up to 128KB)

Audio

High Definition Audio

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

BIOS

- QxBOOT accelerated BIOS security
- Hardware controlled chain of trust
- 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/IoT and Linux

- 32 and 64-bit OS support
- C/ C++ and .NET libraries
- Example code and demo software available

Communication and peripheral drivers and APIs

- SAS 6.02 serial 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



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