



Think outside the box



## QXi-7000 LITE FOR ALL GAME COMPLEXITIES. OUR MOST VERSATILE PLATFORM YET

### Because we pack more in, you get more out

The QXi-7000 LITE allows you to push game design to the limit. With support for up to four independent 4K UHD displays, out of the box security and features required for compliance with all major global gaming markets, and development acceleration through Quixant's field-proven Gaming Ecosystem®. All you have to do is add the game.

### The future is thinking 'outside the box'

Setting the pace in the gaming market means approaching tomorrow in new, innovative ways. With Quixant on your side, you can see things and solve problems in a way you'd never believed possible before. Because we put more features and benefits inside the chassis, you get more scope to deliver immersive, next generation content around it. And that means greater profitability.

### Quixant Gaming Ecosystem®

The QXi-7000 LITE 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 LITE 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 LITE 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.

### Market compliance

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



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# QXi-7000 LITE General Features

## APU

AMD Ryzen™ Embedded SoC

Dual or Quad 64-bit Zen Cores

- Multi-threaded architecture supports up to 4/8 threads
- Quad core configuration supports frequencies up to 3.35GHz (up to 3.8GHz with boost)
- Dual core configuration supports frequencies up to 2.3GHz (up to 3.2GHz with boost)
- Up to 2MB L2 Cache and 4MB L3 Cache

Integrated AMD Radeon™ Vega graphics

- Up to four independent HD/4K displays with support for DisplayPort 1.4
- Up to 8 Compute Units
- Hardware accelerated 4K video encoder/decoder

## Main Memory

2 x DDR4-2400/3200 SODIMM Sockets

Up to 32GB main memory

## Quixant Gaming Ecosystem®

64-bit PCI Express® Gen 2 gaming technology

Up to 16MB of NVRAM

- Battery backed 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

- 8 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) Gen 1

- Hardware system tracing infrastructure
- Fixed, low CPU utilization
- Simultaneous hardware and software events tracing over dedicated ethernet port
- Hardware trigger to generate system dump
- Full development system management through 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) Gen 1

- LED editor GUI to accelerate development of advanced LED patterns, LED live view and LED pattern simulation
- QXi-7000 LITE can drive 4000+ LEDs simultaneously without additional external hardware.

- **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**

## Security

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

## Communication Interfaces

6 x PCI Express® Gen 2 QxCom serial ports

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

2 x PCI Express® Gigabit LAN interfaces

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

8 x USB ports

- 4 x external USB ports (2 x USB 3.1, 2 x USB 2.0)
- 4 x USB ports to front panel (USB 3.0)

## Meter Power detection / PSU control

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

I2C Interface

iButton interface

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

## Power requirement

12V single voltage input

## Storage

- 2 x front panel CFast sockets up to 6GB/s
- 2 x SATA sockets up to 6Gb/s (SATA DOM, SSD, HDD)
- 256Bytes 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 protected 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



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