

Recording and Streaming

Flexible modular solutions for Vision and Imaging



November 2024

Key Features

- Camera input: 20-400 Gb/s
- Camera Interfaces: CoaXPRESS, GigE Vision, Camera Link, and custom
- Ultra-low latency tailored to application needs
- Memory options:
 - Edge solutions: up to 2 TB
 - PC & Cloud solutions: unlimited
- Compact: 13.4cm x 9cm x 6cm, 750g
- Compression options:
 - H.264/5, JPEG, Lossless, Quality+
- Recording speed
 - Raw Data: 100,000 FPS, depending on system configuration
 - Compressed Data: 10,000 FPS
- Camera Synchronization: Programmable I/O ports for precise, synchronized triggering of multiple cameras
- Examples of pre-processing options:
 - High Dynamic Range (HDR)
 - White Balance
 - Gamma Correction
 - Custom Preprocessing
- Remote real-time control and monitoring via network connection

Typical Applications:

- Aerial mapping
- Winded Drones
- Volumetric imaging
- Homeland security
- Traffic monitoring



Flexible Modular Recording and Streaming Solution

Gidel provides high-performance recording and streaming solutions with a uniquely modular design, enabling users to tailor systems for their specific imaging and vision application needs. This flexible approach allows customization to address critical challenges such as compactness, advanced image enhancement, real-time compression, cost-efficiency, and throughput optimization. By leveraging Gidel's renowned FPGA-based image acquisition and processing technology, combined with proprietary image enhancement and compression algorithms, our systems deliver unmatched adaptability, quality, and performance, ensuring an optimal solution for every use case.

Powerful and Optimized Recording Solutions

Gidel's solutions provide a broad technological framework with a focus on high-performance cameras and multi-camera configurations. Our video recording technology stands out for its ability to be easily and quickly customized to fit specific customer needs, ensuring an optimized solution for any application. Customization can be performed either by the customer or with Gidel's expert support, offering a seamless, rapid pathway to tailored functionality. Scalable Solution

We support a variety of high-performance camera protocols, including **CoaXPRESS-12**, **GigE Vision (10 GigE)** and **Camera Link**. Our solutions can support ultra-high scalable bandwidth starting from 20 Gb/s to 400 Gb/s



North America:

6520 Platt Ave Ste 804
West Hills, CA 91307
+1-818-835-9547
sales_usa@gidel.com

International:

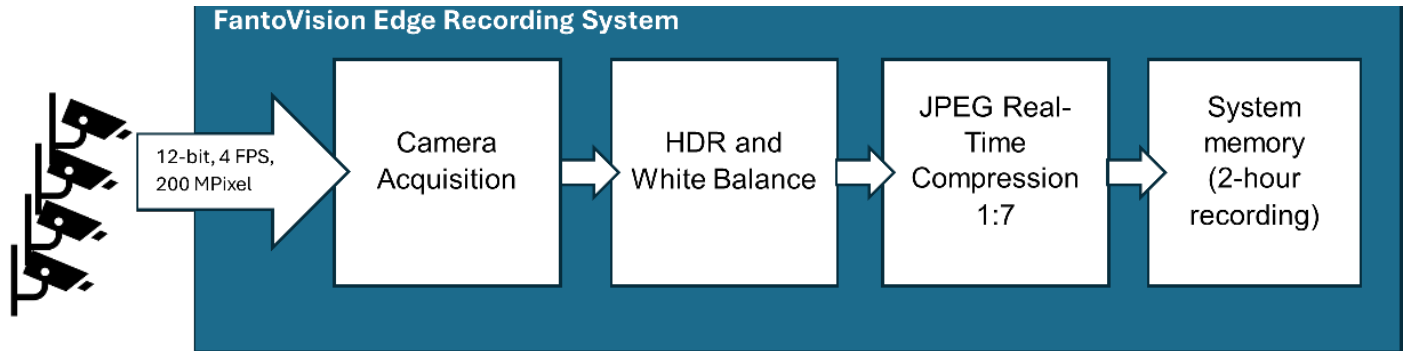
2 Ha'ilan St., Northern Ind. Zone
POB 281, Or Akiva, Israel 3060000
+972-4-610-2500
sales_eu@gidel.com

www.gidel.com



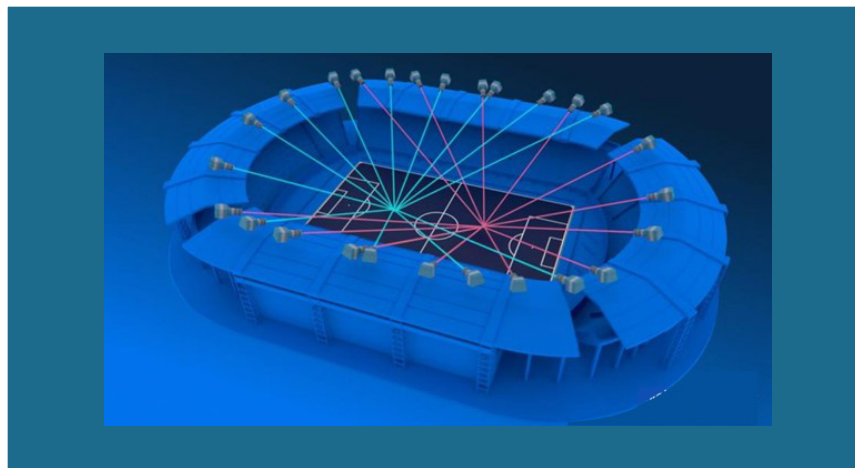
Solution Examples

Aerial Mapping / Winged Drones Example



- **Configuration:** 4 CoaXPress cameras capturing at 12-bit depth and 4 FPS.
- **Frame Size:** 200 MPixels with HDR and white balance preprocessing.
- **Compression:** JPEG compression (8-bit) at 1:7 ratio.
- **Recording Capacity:** up to 2 hours, ideal for long-duration missions in dynamic environments.

Volumetric Imaging Studio Example



- **Setup:** 100-120 cameras positioned at different angles to capture a single scene from multiple perspectives.
- **Configuration:** 10 GigE cameras on only 2 servers, each server equipped with 5 Proc1C10M recording systems.
- **Capacity:** Each Proc1C10M board supports 12 cameras, achieving a total throughput of 120 Gb/s (15 GB/s).
- **Compression:** Achieves a 1:10 compression ratio, reducing data output from 15 GB/s to 1.5 GB/s, significantly optimizing storage without sacrificing image fidelity.



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