Case Study: Streamlining Custom Content Hardware Integration

Project at a Glance

Industry:	Hardware Engineering / Custom Content Delivery Solutions
Crystalfontz Solution:	Custom Integration (CFADP118484) featuring dual e-paper screens and front-panel functionality
Key Outcome:	Significant reduction in development time and a "bulletproof" final product

The Challenge: Complex Integration Requirements

A leader in custom hardware solutions faced a unique engineering challenge for a specialized content delivery application. The product design team needed to combine several distinct, demanding technical features into one cohesive unit.

The technical requirements included:

- Integration of two e-paper screens.
- Complete front-panel functionality.
- Off-the-grid intrusion detection.

Achieving this required a custom chassis and a display partner capable of navigating specific engineering constraints without compromising the development cycle.

Crystalfontz America | 12412 East Saltese Avenue, Spokane Valley, WA 99216
support@crystalfontz.com | www.crystalfontz.com

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The Solution: Collaborative Engineering

The client initially utilized off-the-shelf components before moving to a custom engagement with Crystalfontz, selecting the CFADP118484 unit as their foundation.

The partnership was defined by a high level of collaborative synergy. Crystalfontz distinguished itself through:

Engineering Freedom: We provided the client the autonomy to design without micromanagement, offering a balance of targeted feedback and iterative realignment.

Technical Agility: Our engineering team fully grasped the project constraints, delivering a solution that exceeded performance expectations.

Holistic Support: Support extended beyond the display itself; Crystalfontz recommended a main custom cabling vendor to ensure the success of the entire assembly.

> *"What we look for in a display supplier is the freedom of engineering... Crystalfontz provided the perfect combination of feedback, delivery, double-check, and realignment."*
> *— Manager, Product Design Team*

The Results: A "Bulletproof" Product

This collaboration resulted in a high-quality product that stayed within the client's budget and technical scope. By proactively addressing potential hurdles—such as ribbon cable placement and fixture assembly—we ensured a seamless launch.

Key Success Metrics:

Accelerated Timeline: Partnering with Crystalfontz saved the client significant development time.

Exceptional Quality: The rapid design turnaround resulted in a final product described as "bulletproof" due to its effective, streamlined simplicity.

Proven Reliability: Following the initial success, the client has already launched a new revision of the product with enhanced features and optimized component layouts.

Looking Ahead

The success of this project has solidified a long-term partnership. The client is currently scoping a future project for launch in 2026 utilizing OLED technology, with Crystalfontz remaining their first choice for display solutions.

> *"The design turnaround for a custom product was exceptional. The final product is bulletproof... designed to do exactly what it's meant to do."*
> *— Manager, Product Design Team*