



**EIZO**<sup>®</sup>

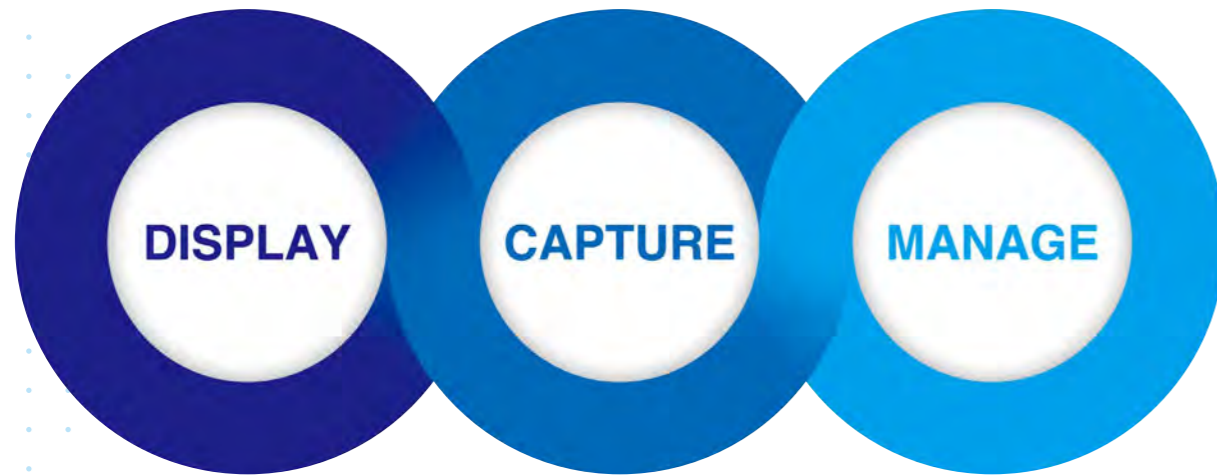
Raptor<sup>®</sup> | Re/Vue<sup>™</sup> | SafeGuard<sup>™</sup>



# End-to-End ATC Visual System



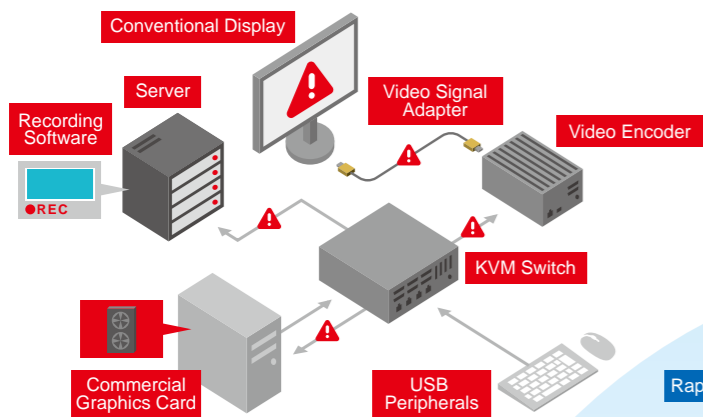
# ATC Visual System



## The ATC Visual System

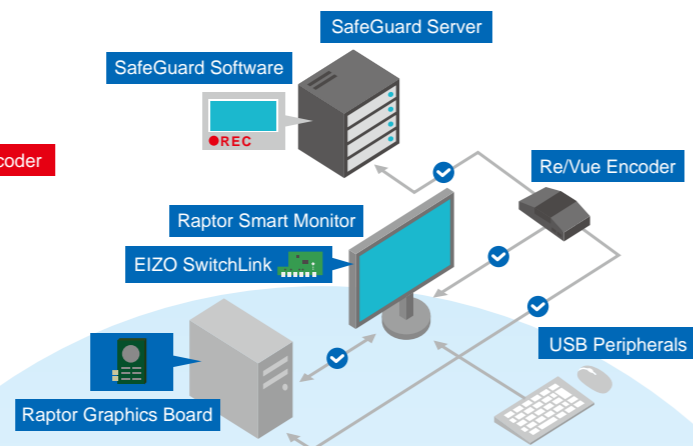
The ATC Visual systems consists of several graphics-related devices designed to transfer air traffic management video data to the controller. It is not uncommon for an ANSP to receive an integrated solution made up of multiple vendors' products, which can result in critical errors with compatibility and other issues that could risk program delays. EIZO's end-to-end ATC Visual System encompasses monitors, video encoders, dedicated graphics boards, and an upgradeable recording solution, all of which are designed and tested for interoperability from the outset.

### Conventional Configuration



Example of a conventional system comprised of hardware and software from multiple vendors.

### EIZO ATC Visual System



EIZO's ATC Visual System with proven solutions that eliminate interoperability concerns.



## DISPLAY

### Smart Monitors

Raptor primary control monitors and high-brightness tower monitors are relied on by thousands of controllers in some of the world's most demanding ANSPs for the safe and efficient movement of air traffic. Both 2K x 2K and 4K x 2K formats are available to support varying installation requirements. See page 6-7

### SMART TECHNOLOGIES

Raptor monitors feature EIZO's unique smart technologies which simplify installation and streamline operation. See page 4-5

## CAPTURE

### Encoding & Streaming

Re/Vue encoding & streaming solutions provide the accuracy needed for ATC, training & simulation, and command & control applications. They offer a true lossless compression ratio of 10,000:1 to 40,000:1 for typical ATC data - the highest in the industry. See page 8-9



## MANAGE

### Recording & Playback

SafeGuard is a data capture & content management solution designed to receive multiple feeds from communication interfaces employed in mission-critical ATC. It provides a highly secure archive supporting the management, analysis, and distribution of data for Post Incident Investigation, Search & Rescue Operations, Training & Performance Analysis, and Verification & Validation. See page 10-11

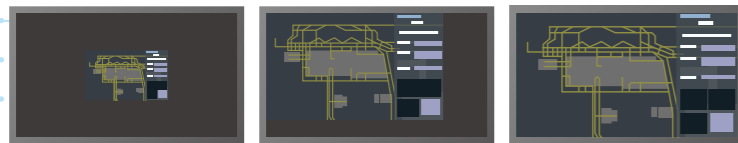


## Make the Switch to a Smarter Monitor

### Intelligent Display Platform

EIZO's Intelligent Display Platform (IDP) equipped in select Raptor monitors enables simultaneous display of video signals from up to four independent sources. Users have complete freedom to place each window anywhere on the screen.

Freely arrange each source window anywhere on the screen.

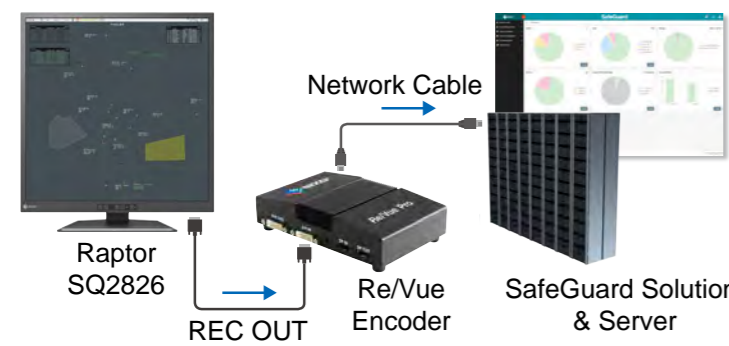
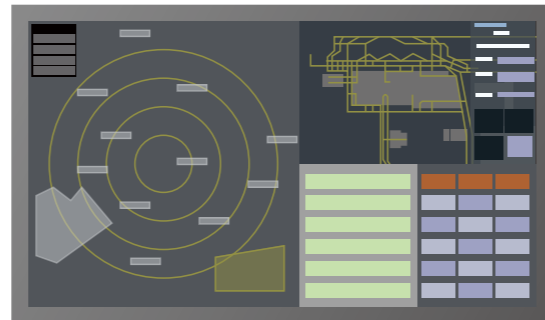


Actual Size

Scaled  
(maintains aspect ratio)

Full Screen  
(stretched)

Display up to four video sources simultaneously.



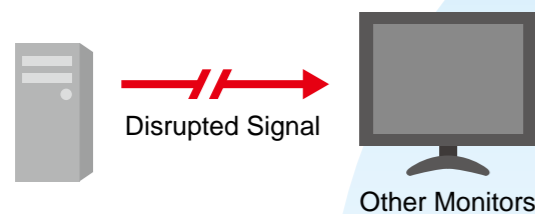
### At-the-Glass Image Capture Built-In

The Raptor SQ2826 is the industry's first primary control monitor to feature truly built-in image capture at the glass. All displayed image content, including the monitor's OSD menu operations, is accurately output using the monitor's DVI (REC OUT) connection.

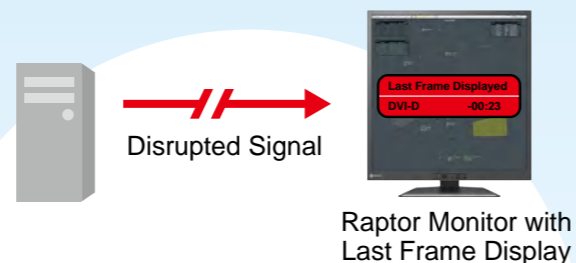
### Last Frame Display

EIZO's unique Last Frame Display function automatically displays the last available frame displayed prior to any signal disruption accompanied by a text overlay of the status. This ensures the ATCO is immediately aware the disruption while providing the latest visual information as a reference until the issue is addressed.

Monitor loses picture when signal is disrupted.



Raptor monitor continues to show the last frame.



### Integrated Switching

SwitchLink enables seamless switching of keyboard, mouse, and dynamic touch input without the need for an external KVM switch. Up to six workstations can be connected and operated by a single keyboard and mouse.



#### SwitchLink Mouse

Moving the cursor across each window will instantaneously and automatically switch workstation inputs.



#### SwitchLink Keyboard

Press a predefined hotkey to switch USB control of the keyboard and mouse to another workstation.



#### SwitchLink Dynamic Touch

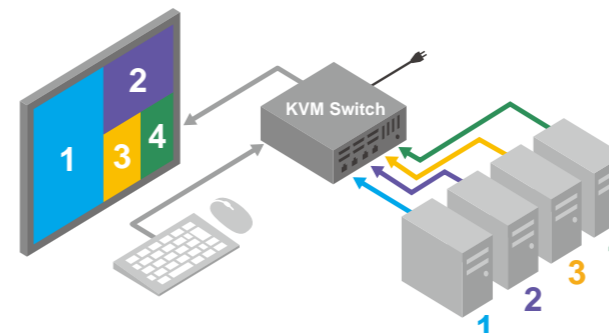
With IDP displaying up to four workstations on a single monitor, SwitchLink enables each window to have its own independent touch connection. Simply touch the screen and the monitor will automatically switch to the target input. *Availability varies by model.*

### Streamline Installation and Maintenance

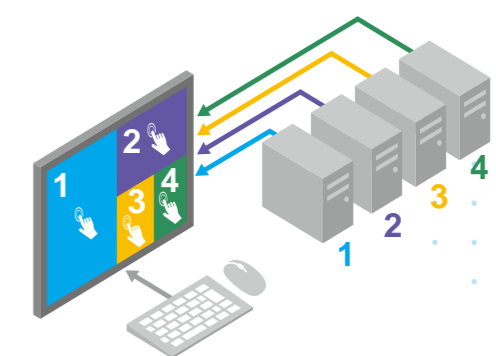
With SwitchLink, video sources connect to the monitor directly, eliminating the need for a KVM switch.

- Reduce cabling and cable management
- Reduce power consumption and connection requirements
- Avoid compatibility issues

Traditional configuration using a KVM switch.



SwitchLink eliminates the need for a KVM switch.





## 6th Generation 2K x 2K Primary Control Monitor

The Raptor SQ2826 is the world's first 2K monitor for ATC to comply with 100 x 100 VESA mounting standards due to its light weight of just 9.2 kg. It features EIZO's unique smart technologies for streamlined installation and operation.

- ✓ World's 1st 2K x 2K monitor with VESA 100 x 100 compliance
- ✓ 28.1-inch with 2K x 2K (2048 x 2048)
- ✓ IDP, SwitchLink, At-the-Glass Image Capture, and Last Frame Display smart technologies
- ✓ 24/7 reliable operation



Minimum Brightness



Maximum Brightness

## High-Brightness Tower Monitors

Raptor tower monitors provide exceptional readability of text and images in varying ambient lighting conditions, making them ideal for tower applications. Select models feature EIZO's smart technologies for streamlining installation and operation.

- ✓ Wide brightness range and high visibility
- ✓ 4K x 2K (3840 x 2160) resolution for high detail
- ✓ IDP, SwitchLink, and Last Frame Display smart technologies
- ✓ Touch panel variations
- ✓ 24/7 reliable operation

*Smart technologies vary by model. See page 12 - 13 for details.*

## Industry's 1st 4K x 2K Primary Control Monitor for ATC

The Raptor RP4325 (42.5-inch) is the industry's first 4K x 2K primary control monitor developed specifically for ATC. Alongside it, the Raptor RP5525 (54.6-inch) offers an even more spacious option for viewing a large volume of control data on a single screen.

- ✓ 42.5 or 54.6-inch spacious screen
- ✓ 4K x 2K (3840 x 2160) resolution for high detail
- ✓ IDP, SwitchLink, and Last Frame Display smart technologies
- ✓ 24/7 reliable operation



## Extensive Range of Auxiliary Monitors

EIZO's comprehensive line of auxiliary monitors provides control centers, towers, and training & simulation facilities with a wide range of monitor sizes and features sets to suit individual requirements.

- ✓ 15 to 37.5-inch size screens
- ✓ Wide and square formats available
- ✓ Resolutions of up to 3840 x 2160
- ✓ Eye care technologies
- ✓ Sustainable monitor build



...and more!

## Industry-Leading Solutions

EIZO's Re/Vue products are encoding & streaming solutions developed for mission-critical ATC applications. They feature true lossless compression of 10,000:1 to 40,000:1 for typical ATC data – the highest in the industry.

- ✓ Synchronous encoding & streaming up to single or dual 4K (4096 x 2160)
- ✓ True lossless compression
- ✓ Platform and graphics card independent
- ✓ Fail-safe video bypass
- ✓ Fully compatible with Raptor SQ2826's At-the-Glass Image Capture function



**Re/Vue Pro 2**  
Single channel with DisplayPort™



**Re/Vue Pro 2 Max**  
Single channel with DisplayPort or DVI and audio connectors



**Re/Vue Pro Duo**  
Dual channel with DisplayPort



## Practical Application

Re/Vue can serve as standalone streaming devices or be seamlessly integrated as part of a broader recording solution.



## Single and Dual Channel Encoding and Streaming

The Re/Vue lineup offers synchronous encoding & streaming of up to 4K x 2K with single or dual-channel support. This provides a range of solutions for ATC video data management to suit any configuration.



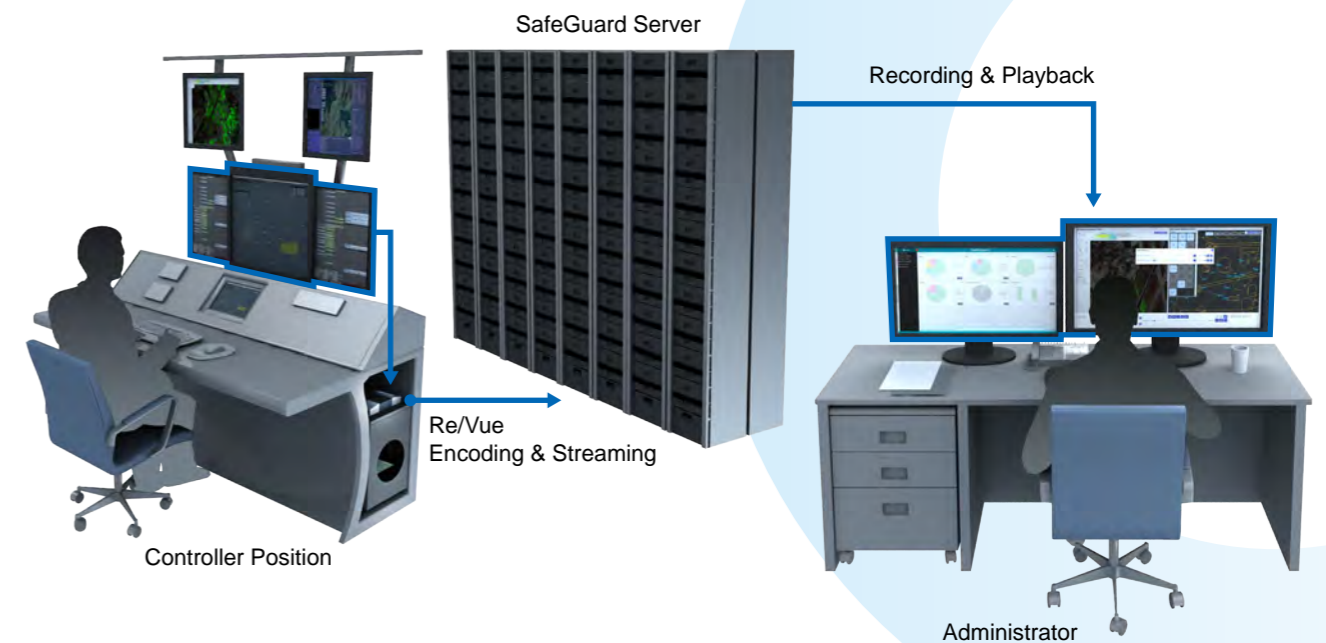
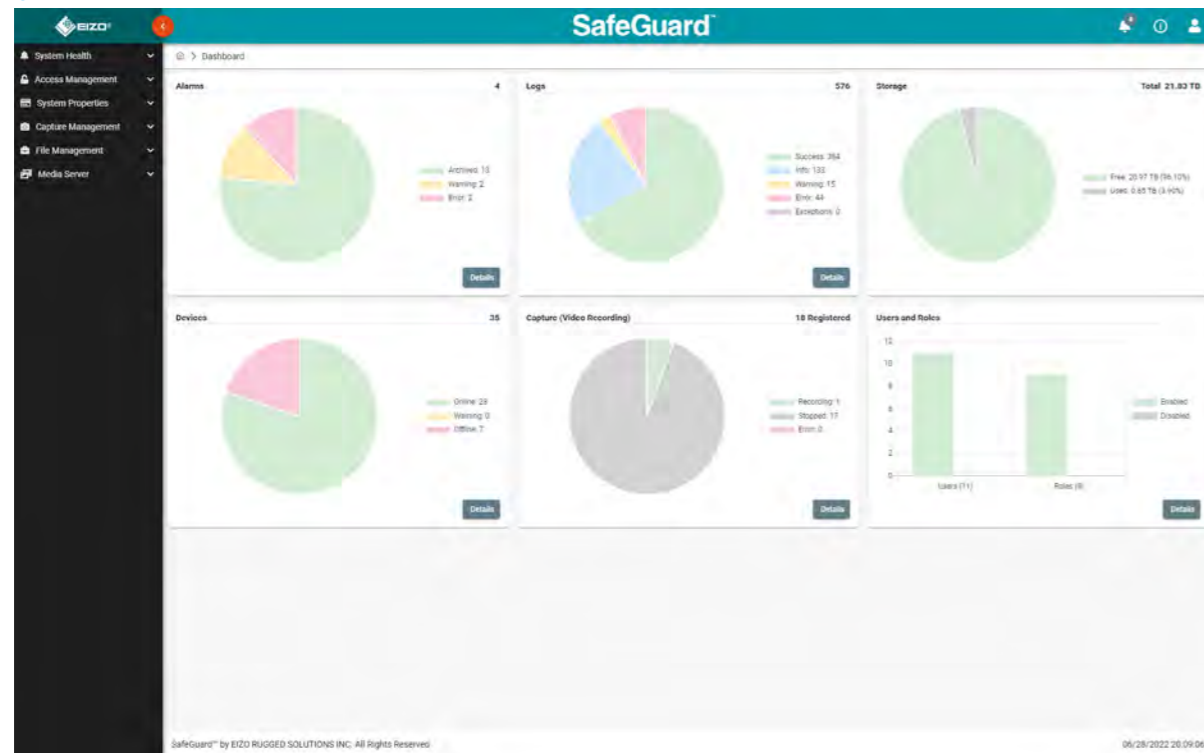
Single or Dual 4K x 2K



Single or Dual 2K x 2K



Other Configurations (Single or Dual)



## Recording and Storage

SafeGuard captures audio, radar, At-the-Glass video signals, CCTV camera signals, and distributed network data. Content can be securely recorded to the SafeGuard server provided by EIZO for storage or playback and analysis.

## Data Capture & Content Management

### Secure End-to-End Solution

SafeGuard is an end-to-end solution comprising of software, servers, peripherals and other hardware components, and associated services entirely provided by EIZO. It is a turnkey solution that provides a highly secure archive supporting the management, analysis, and distribution of data from communication interfaces employed in mission-critical environments.

- ✓ Multi-format data capture and synchronous playback
- ✓ Highly secure browser-based management
- ✓ Centralized management and control
- ✓ User-defined roles and access rights



### Synchronous Playback

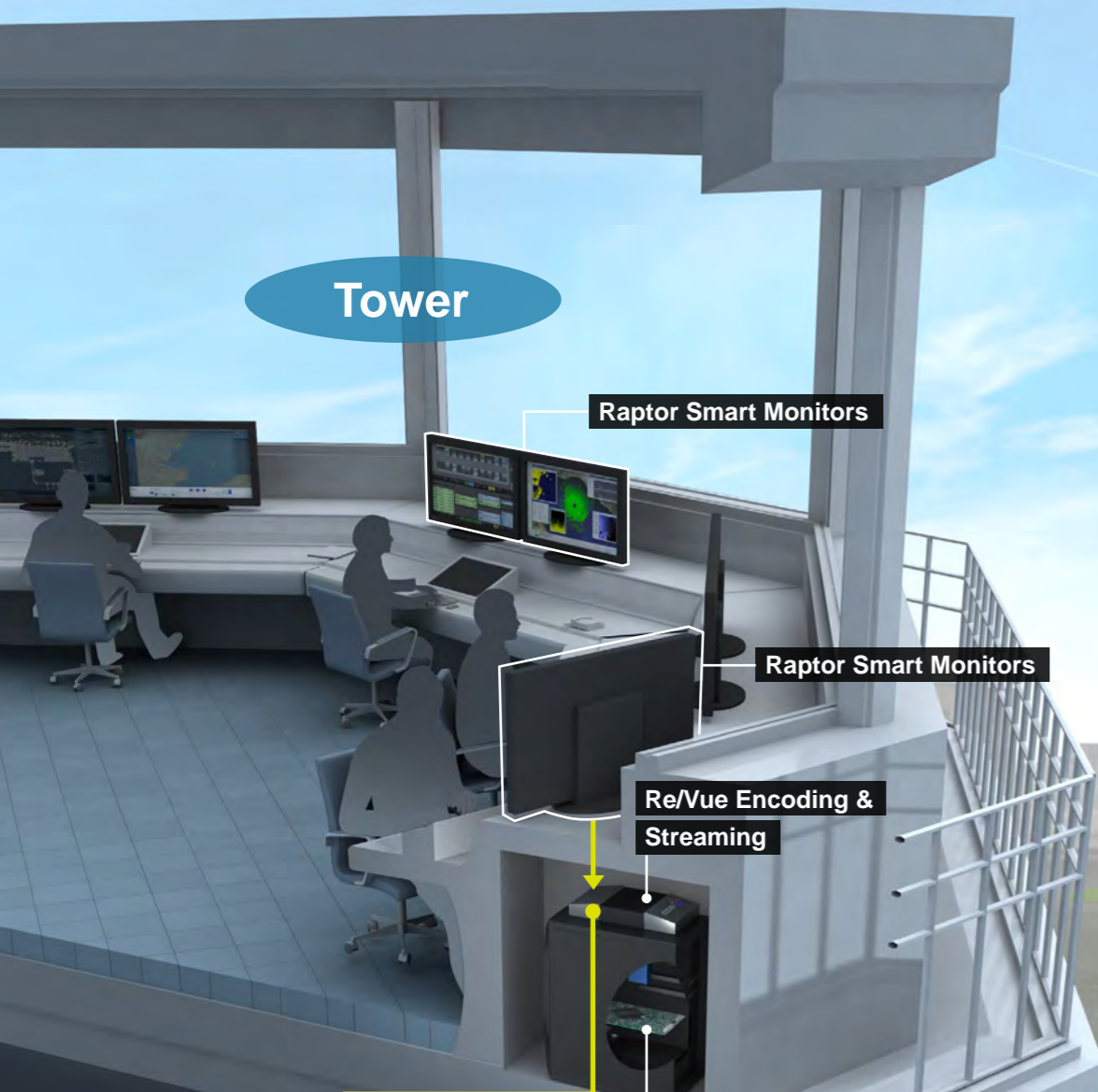
SafeGuard achieves synchronous data playback of multiple channels from a user-specified time frame via browser-based client. Data is streamed from a secure server during playback so files do not need to be maintained on the local machine, alleviating storage space and streamlining data access between operating workstations.

### Secure Browser-Based Management

SafeGuard's browser-based management employs HTTPS and enhanced authentication measures to ensure that all transactions between the browser client and data server are secure. Remote network access to the SafeGuard servers provides administrators with centralized control of data capture, system monitoring, and more for streamlined management.

# End-to-End ATC Visual System

EIZO's ATC Visual System is comprised of smart monitors, encoding & streaming devices, data capture & content management software and servers, and dedicated graphics boards. All solutions are designed for interoperability, providing streamlined installation and operation to towers, control centers, and training & simulation facilities.



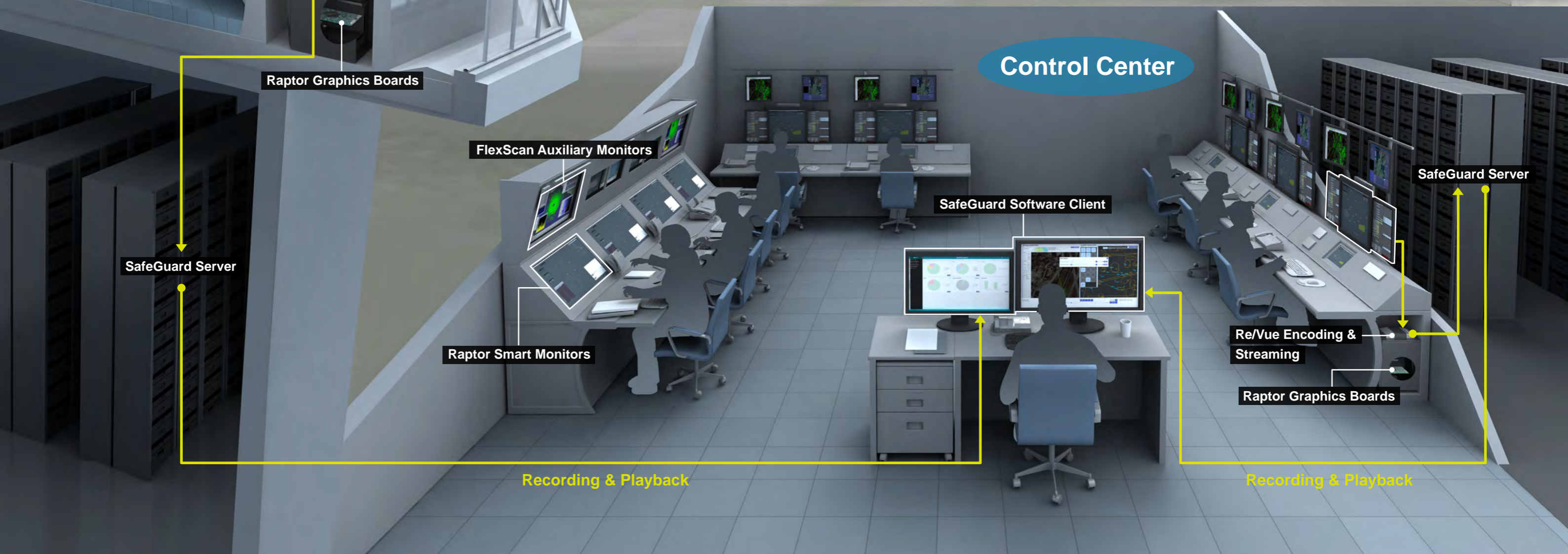
**Tower**

Raptor Smart Monitors

Raptor Smart Monitors

Re/Vue Encoding & Streaming

Raptor Graphics Boards



**Control Center**

SafeGuard Server

FlexScan Auxiliary Monitors

SafeGuard Software Client

Raptor Smart Monitors

SafeGuard Server

Re/Vue Encoding & Streaming

Raptor Graphics Boards

Recording & Playback

Recording & Playback

# Specifications



## Monitors

Raptor SQ2826



Raptor RP5525



Raptor RP4325



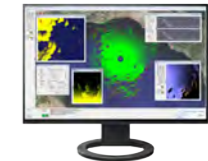
Raptor RP3225



Raptor RP2425



FlexScan Series



		Primary Control		Tower		Auxiliary
<b>Size</b>	28.1" (71.2 cm)	54.6" (138.8 cm)	42.5" (108 cm)	31.5" (80 cm)	24.1" (61.2 cm)	10.4 to 37.5"
<b>Resolution</b>	2048 x 2048	3840 x 2160	3840 x 2160	3840 x 2160	1920 x 1200	up to 3840 x 2160
<b>Brightness Range</b>	10 - 500 cd/m <sup>2</sup>	20 - 700 cd/m <sup>2</sup>	25 - 500 cd/m <sup>2</sup>	10 - 700 cd/m <sup>2</sup>	10 - 750 cd/m <sup>2</sup>	Varies by model
<b>Smart Technologies</b>	IDP, SwitchLink, At-the-Glass Image Capture, Last Frame Display	IDP, SwitchLink, Last Frame Display	IDP, SwitchLink, Last Frame Display	IDP, SwitchLink, Last Frame Display	—	—
<b>Input Terminals</b>	DisplayPort x 2, DVI (dual link) x 2	DisplayPort x 2, DVI (dual link) x 2	DisplayPort x 2, DVI (dual link) x 2	DisplayPort x 2, DVI x 2	DisplayPort, DVI, D-Sub mini 15 pin	Varies by model
<b>Output Terminals</b>	REC OUT	—	—	—	—	—
<b>Weight*</b>	9.2 kg	29.3 kg	20.5 kg	17.1 kg	9.2 kg	Varies by model
<b>Mounting</b>	Desktop, VESA, Panel, Chassis	VESA	Desktop, VESA	Desktop, Tilt Stand, VESA	Desktop, Tilt Stand, VESA	Desktop, VESA

\*Net weight for VESA version (without stand). Varies by mounting variation.



## Encoders

Re/Vue Pro Duo



Re/Vue Pro 2 Max



Re/Vue Pro 2



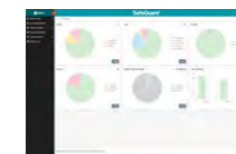
	Dual Channel	Single Channel	
<b>Video Compression Ratio*</b>	10,000:1 to 40,000:1	10,000:1 to 40,000:1	10,000:1 to 40,000:1
<b>Maximum Video Resolution</b>	4096 x 2160 per channel (max. 2 channels)	DVI: 2048 x 2160 DisplayPort: 4096 x 2160	4096 x 2160
<b>Video Connectors</b>	DisplayPort (input and output) x 2	DisplayPort (input and output), Dual link DVI (input and output)	DisplayPort (input and output)
<b>Audio Connectors</b>	—	Stereo mini jack	—

\*Actual compression ratio is dependent upon configuration parameters and video data type.



## Software

SafeGuard



<b>Multi-Format Data Capture and Playback</b>	✓
<b>Touch Screen Support</b>	✓
<b>Secure Browser-Based Management</b>	✓
<b>Intuitive User Interface</b>	✓
<b>User-Defined Roles and Access Rights</b>	✓
<b>Centralized Management and Control</b>	✓
<b>Highly Configurable</b>	✓

See eizoglobal.com for detailed specifications.



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