White Paper:
Individual Monitor Cameras and Integration Possibilities in Arthur Holm Solutions

April 2026

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MakeYourMeetingsCount

Individual Monitor Cameras and Integration Possibilities in Arthur Holm Solutions

Executive Summary

In meeting rooms, boardrooms, and conferencing environments, camera selection plays a critical role in shaping user experience, system reliability, and overall design integration.

This white paper examines the advantages of **individual monitor-integrated cameras** compared to traditional **PTZ (Pan-Tilt-Zoom)** systems and explores the camera integration options available within **Arthur Holm solutions**, particularly the DynamicX2 range.

It highlights how a distributed, user-centric camera approach enhances communication, simplifies system architecture, and aligns with contemporary design and collaboration requirements.

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1. Introduction

Video collaboration has evolved significantly—from centralized camera systems to **distributed, user-centric solutions**. While PTZ cameras have long dominated conferencing environments, the emergence of individually **integrated cameras within displays and furniture** is redefining expectations in terms of:

- User engagement
- Aesthetics and architectural integration
- Privacy and user control
- Scalability and system flexibility

In boardroom applications, the discussion is no longer limited to camera technology alone, but rather to the overall meeting experience design.

Two distinct approaches can be identified:

- **PTZ room cameras** (shared, room-centric perspective)
- **Individual cameras embedded in each monitor or seat** (participant-centric perspective)

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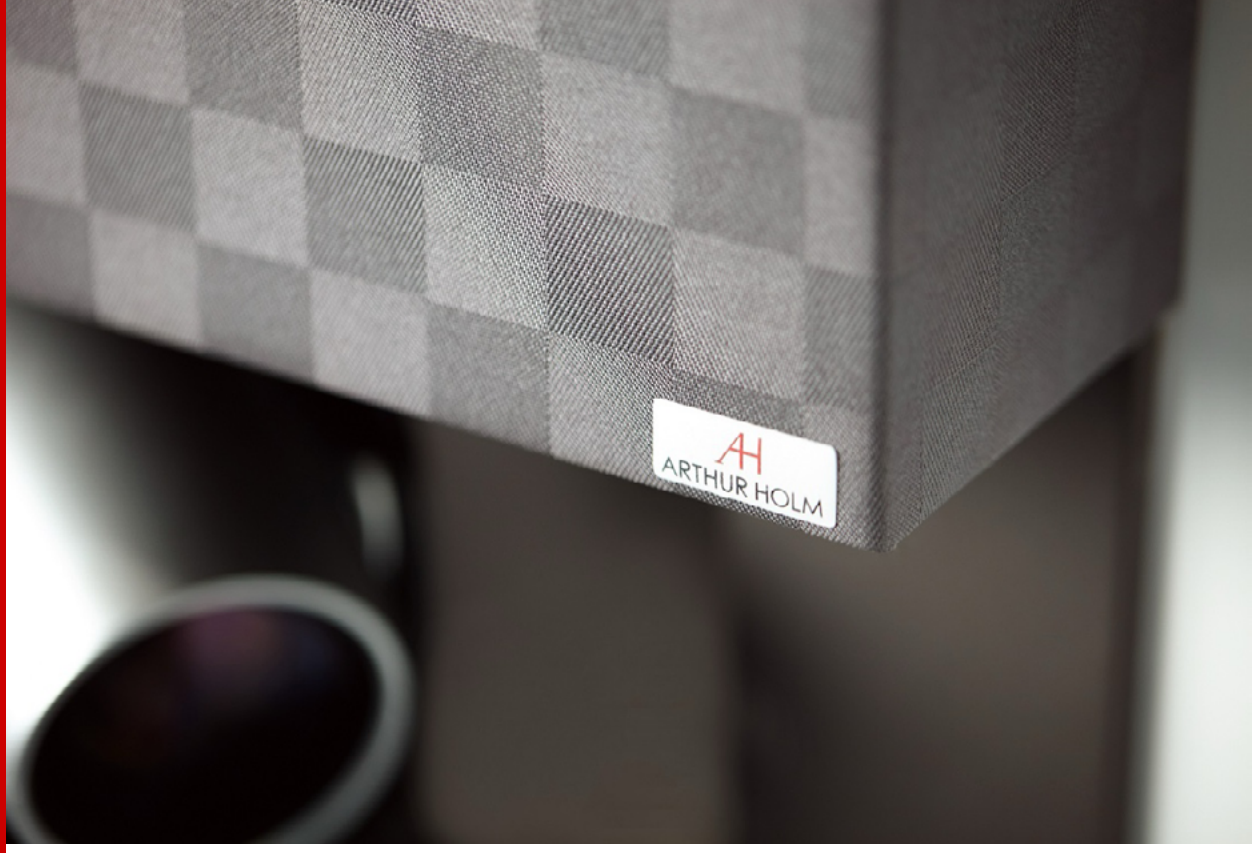

2. PTZ Cameras in Boardroom Environments

Advantages

- **Natural Room Perspective**
  PTZ cameras provide a familiar, wide-angle view of the room, allowing remote participants to perceive the meeting as if they were physically present.
- **Unified System Architecture**
  Few video feeds simplify integration with conferencing platforms such as Microsoft Teams and Zoom.
- **Automated Speaker Tracking**
  Modern PTZ systems incorporate AI-based tracking, automatically framing active speakers and presenters.
- **Centralized Integration**
  PTZ cameras integrate seamlessly with microphones, DSPs, and control systems, forming a cohesive AV infrastructure.

Disadvantages

- **Limited Individual Visibility**
  Participants may appear small or off-axis, particularly in larger rooms.
- **Single Viewpoint Constraint**
  Only one perspective can be shown at a time, even with automated tracking.
- **Reduced Engagement**
  Remote participants observe the room rather than engaging directly with individuals.
- **Dizziness feeling when moving**
- **Difficult placement on wall**
- **Costly cable integration and building work**

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3. Individual Monitor-Embedded Cameras

Individual cameras embedded within monitors or furniture introduce a **participant-centric communication model**, where each user is captured independently.

Advantages

- **True Face-to-Face Communication**
  Each participant is framed at eye level, creating a more natural and engaging interaction.
- **Simultaneous Visibility**
  All participants can be displayed at once without switching or repositioning.
- **Equal Presence**
  Eliminates framing bias, ensuring balanced visual representation for all participants.
- **Voice controlled camera selection**
- **Enhanced Hybrid Collaboration**
  Supports grid-based layouts and AI-driven collaboration platforms more effectively than centralized systems.
- **Facial recognition**
- **Some applications allow facial recognition**

Disadvantages

- **Higher System Complexity**
  Each seat requires its own camera, display, and connectivity.
- **Increased Cost per Installation**
  Scaling the system involves additional hardware per participant.
- **Reduced Room Context**
  Capturing shared elements such as whiteboards or presenters may require supplementary cameras.

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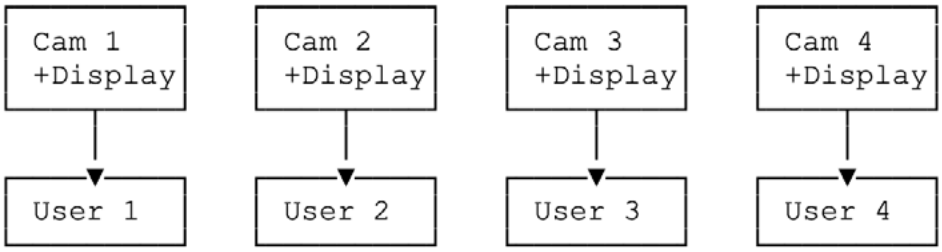
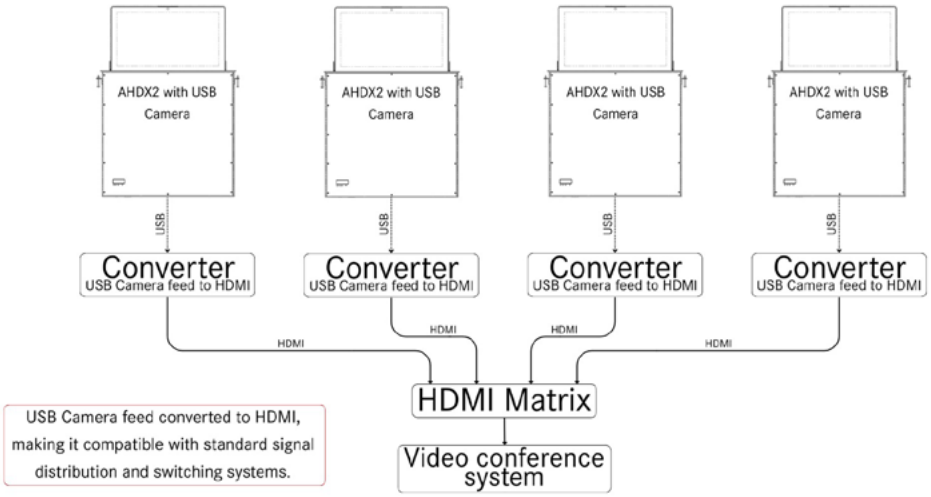
4. Architectural Comparison

Individual Camera Setup (Distributed Architecture)

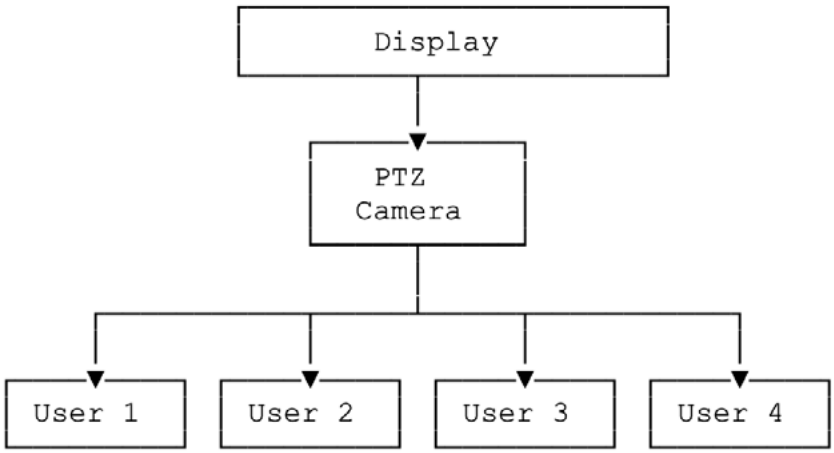


Key Characteristics:

- One camera per participant
- Eye-level, direct framing
- No movement or switching required



PTZ Camera Setup (Centralized Architecture)



Key Characteristics:

- Single camera covering all participants
- Requires motorized movement (pan/tilt/zoom)
- Users are often captured off axis

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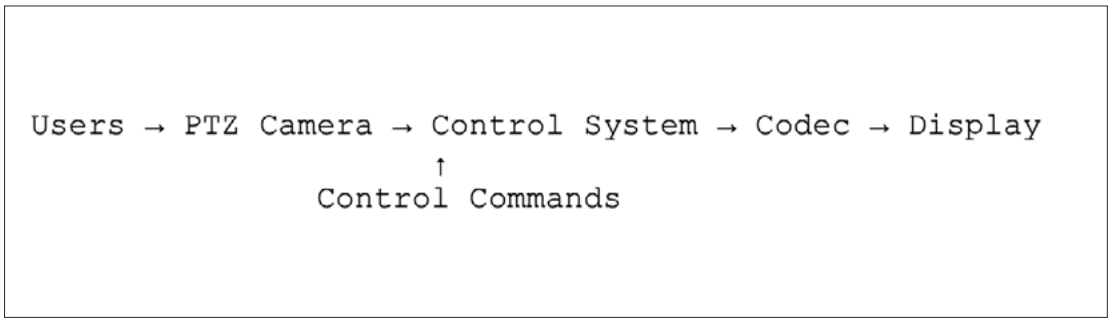
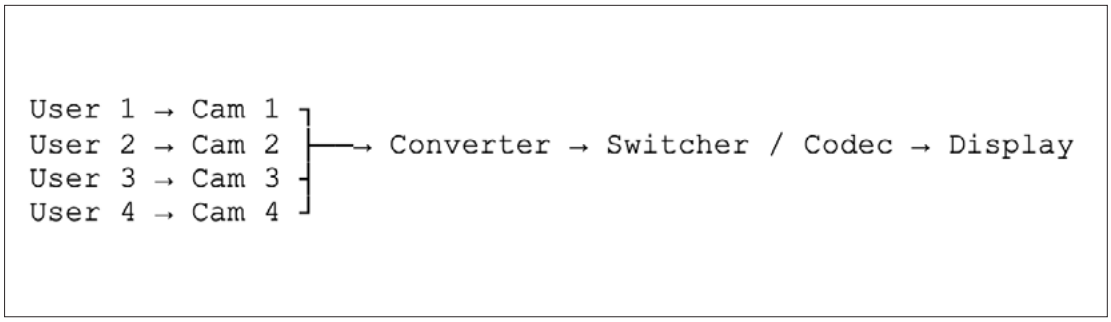
5. Signal Flow Comparison

PTZ System



Individual Cameras (Arthur Holm)



Insight:

- PTZ systems rely heavily on control logic
- Individual cameras operate through parallel video inputs

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6. Key Advantages of Individual Cameras

A. Enhanced User Experience
Eye-level framing improves communication clarity and natural interaction.

B. Simultaneous Multi-User Visibility
All participants are visible without camera switching.

C. Reduced Latency and Complexity
Eliminates delays associated with camera movement and preset recall.

D. Increased Reliability

E. Privacy and User Control
Users can control or disable their own camera when required.

F. Seamless Design Integration
Cameras are discreetly embedded into monitors and disappear inside the furniture, maintaining clean architectural lines. No architectural obstructions.

7. Arthur Holm Camera Integration Philosophy

Arthur Holm integrates cameras directly into its **DynamicX2, Dynamic3, DB3, AH1, and AH2** product lines, with a focus on:

- Discreet and elegant design
- User-centric positioning
- High-quality video performance
- Flexible connectivity options

This approach ensures that technology enhances both architecture and usability.

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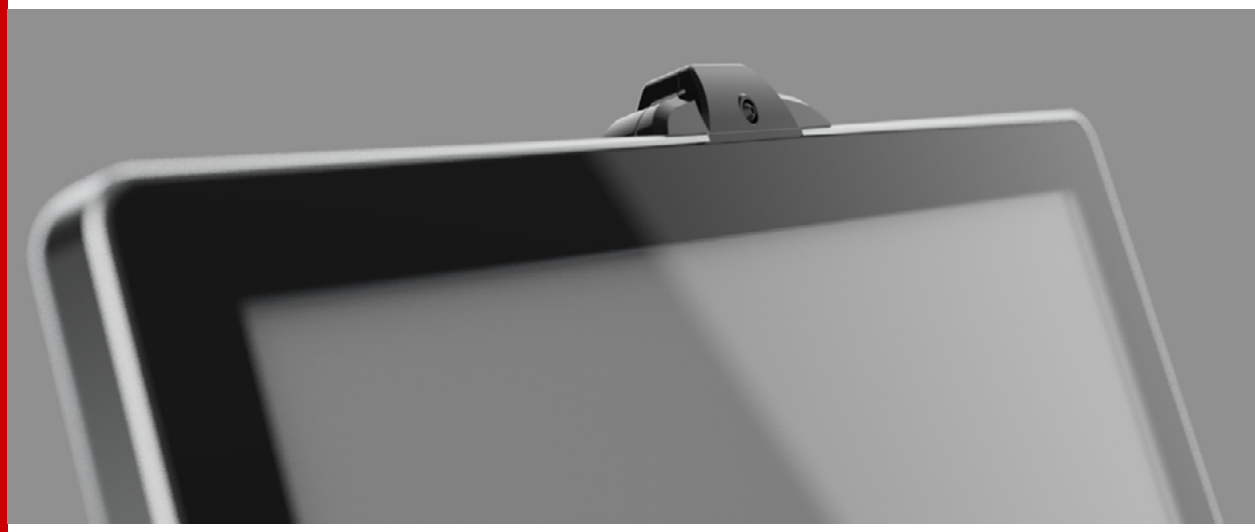
8. Camera Integration Options in DynamicX2

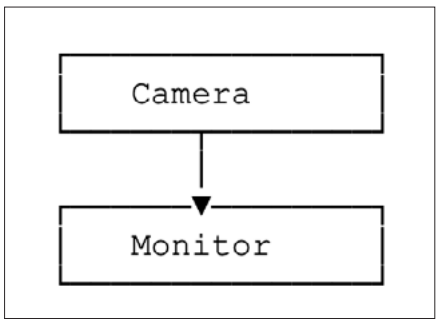
Arthur Holm offers different configurations based on:

- **Camera type:** USB or HD-SDI
- **Integration style:** Housing-mounted or monitor-integrated

A. Top Housing-Mounted Camera (only for HD-SDI cameras)

Old part number HSDICOTDX2 /New part number CAMSODX2





- Visible external housing
- Field of view adjustment

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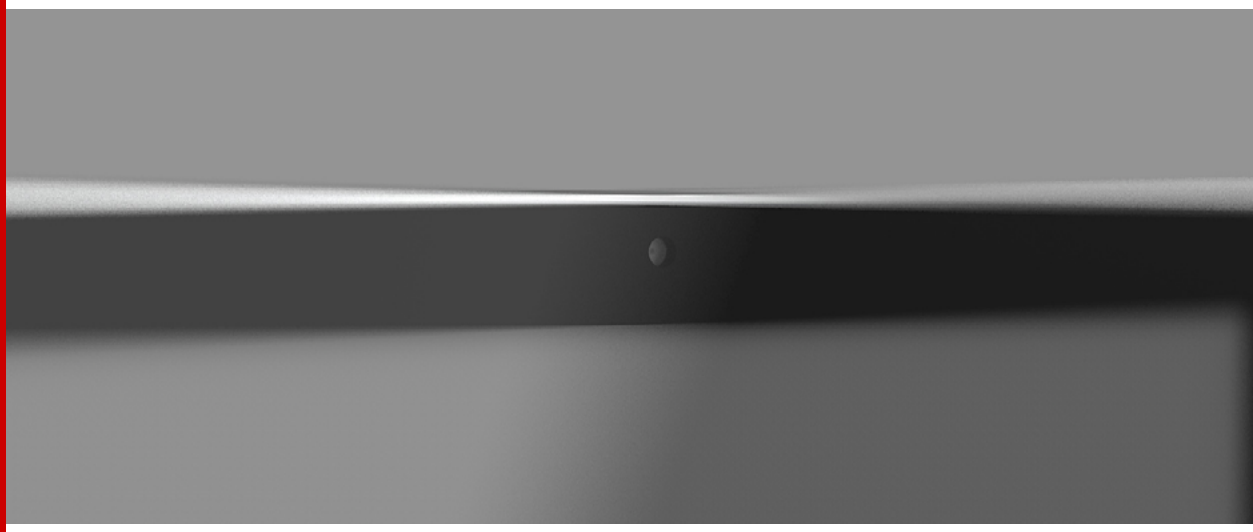
B. Monitor-Integrated Camera



- Camera in the Monitor Enclosure

- Fully embedded within the monitor housing
- Discreet, premium aesthetic
- Seamless integration

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USB and HD-SDI Camera Solutions for DynamicX2

USB Camera Integration:

Monitor-Integrated (Old part number USBCFDX2/ New part number CAMUDX2)

- Enhanced design integration
- Full HD 1080p video
- IMX179 Sensor
- Aperture (F) 2.0
- Field of View 75°
- Format MJPG & YVY2

HD-SDI Camera Integration:

Top Housing-Mounted (Old part number HDSDICOTDX2/ New part number CAMSODX2)

- BNC HD-SDI output
- Sony CMOS sensor (~2.12 MP)
- Multiple video formats (1080p, 720p)
- Wide dynamic range and low-light performance

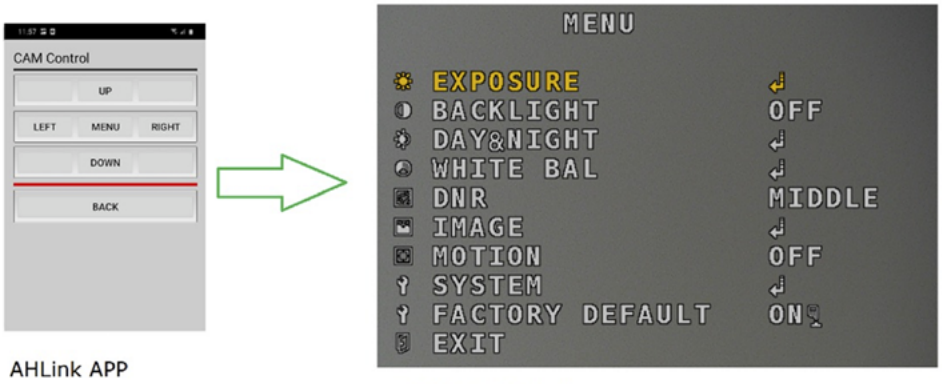
Monitor-Integrated (Old part number HDSDICFDX2/ New part number CAMSIDX2)

- Fully concealed design
- BNC HD-SDI output
- Sony CMOS sensor (~2.12 MP)
- Multiple video formats (1080p, 720p)
- Wide dynamic range and low-light performance

Control and Configuration

Arthur Holm HD-SDI cameras can be configured via the **AHlink App**, enabling real-time adjustment of:

- Exposure
- White balance
- Noise reduction
- Image parameters



AHLink APP

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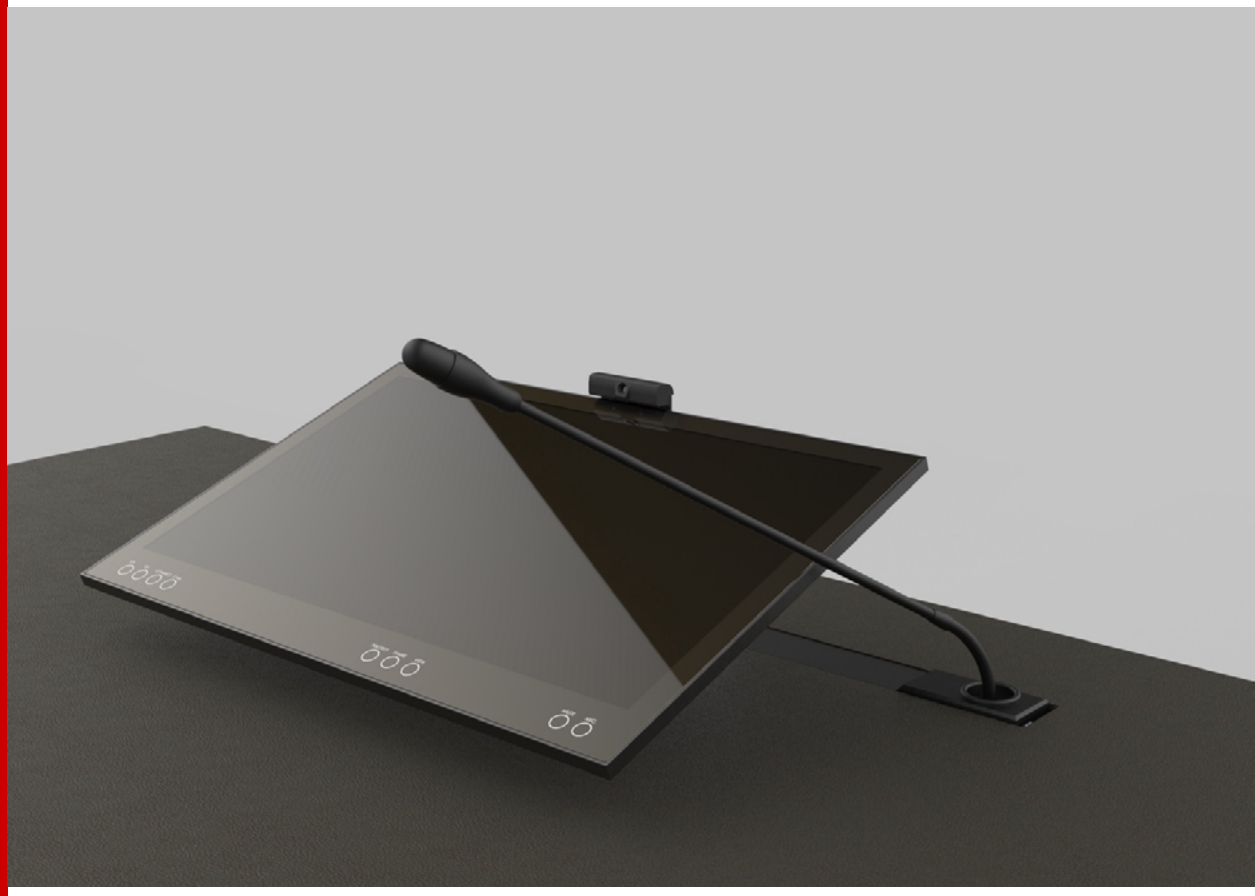
9. Camera integration in DB3

USB motorized camera (Old part number USBCDB3 /New part number CAMUDB3)



- Motorized retractable camera
- Full HD 1080p video
- IMX179 Sensor
- Aperture (F) 2.0
- Field of View 75°
- Format MJPG & YVY2

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10. Camera integration in Dynamic3

Old part number USBCD3 / New part number CAMUD3)

- Monitor Integrated USB camera
- Full HD 1080p video
- IMX179 Sensor
- Aperture (F) 2.0
- Field of View 75°
- Format MJPG & YVY2

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11. Integration Benefits

Boardrooms
- One camera per participant ensures equal presence
- Clean table design without external devices

Conference Rooms
- Eliminates the need for wall- or ceiling-mounted PTZ cameras
- Simplifies system architecture

High-End Environments
- HD-SDI outputs integrate directly with professional workflows
- Consistent framing across all participants

12. Comparative Summary

Criteria	Individual Cameras (Arthur Holm)	PTZ Cameras
User Experience	Excellent (eye-level, personal)	Moderate
Reliability	High	Moderate
Maintenance	Low	Higher
Scalability	High (per seat)	Limited
Design Integration	Seamless	Intrusive
Control Complexity	Minimal	High

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Conclusion

The transition from centralized PTZ systems to distributed, participant-centric camera solutions represent a fundamental shift in AV design philosophy.

Arthur Holm's integrated camera solutions exemplify this evolution by combining:

- High-performance imaging
- Elegant industrial design
- Flexible connectivity (USB and HD-SDI)
- User-centric positioning

For meeting environments that prioritize **collaboration**, **aesthetics**, and **reliability**, individual monitor-integrated cameras offer a compelling and future-ready alternative to traditional PTZ systems.

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