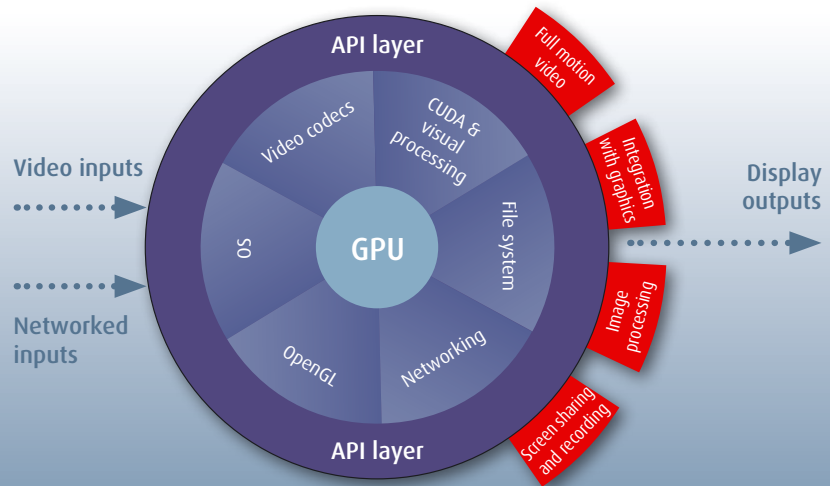


CommonSENSE

Software toolkit for image processing



CommonSENSE at a glance

- GPU-accelerated manipulation and presentation capabilities of full motion video
- Integration of all full motion video into a variety of operator working positions in distributed environments
- Video processing for both analog and digital streaming video formats
- Seamless hardware evolution without change to application software layer
- Allows operators in the field to connect and respond to mission-critical information

In today's military environments, quick and immediate access to visual information is of vital importance. However, turning mission-critical information into real-time knowledge typically requires extensive customization on the client's application programs.

Barco's CommonSENSE software toolkit offers a comprehensive application programming interface to help system designers with the rapid development of high-performance visualization applications. Combined with Barco's network client application for enhanced C4ISR, CommonSENSE enables operators in the field to connect and respond to mission-critical information anytime, anywhere.

Offered as an option to Barco's Display Processing Modules (DPM) and smart displays, CommonSENSE can be deployed into a variety of manned positions for mission-critical systems, including unmanned vehicle systems, ground army vehicles and naval C4ISR systems.

BARCO

Visibly yours

Capabilities

Full motion video (FMV)

- Selection of any video, networked video or graphics source for processing, image composition and display
- Controls for adjusting camera inputs (including brightness, contrast, saturation, edge alignment, and multiple de-interlacing modes)
- Positioning and sizing of video on the screen (including Picture-in-Picture)
- Specification of how video content should be displayed, according to region of interest or pan, zoom and rotate parameters

Integration with graphics

- References, tags and highlights to visualize content of interest
- Metadata overlay
- Integration with graphics applications, e.g. 3D video mapping, synthetic vision graphics

Image processing

- Image enhancement, e.g. stabilization
- Fusion of multiple sensors, e.g. image blending, image overlay
- Integration with video analytics applications, e.g. intelligent motion detection, target tracking

Screen image operations

- Live remote display
- Recording
- Playback

Applications

Unmanned vehicle systems

- Manned and unmanned systems
- Ground control systems
- Distributed common ground system (DCGS)
- Payload and analyst operator workstations

Naval C4ISR

- UCAV/UCLASS EO/IR payload and analyst workstation
- Command and control systems
- Integrated bridge systems

Ground vehicles C4ISR

- Situational awareness — 360° SA
- Driver's video
- Remote weapons sensor processing

Benefits

- Simplifies application development to reduce cost and speed time-to-market
- Enables technology refresh of hardware with no impact to application software for reduced lifecycle cost and platform stability
- Preserves video information (frames, pixels) while performing complex manipulations in real time
- Frees CPU of image processing to perform other operations

Technical specifications

General

- Library or standalone executable service
- **Operating systems:** Linux and WindowsXP/XPE
- **Programming interface:** C++ Library or url/http interface
- **Camera formats:** NTSC/PAL/RS-170
- **Stream formats:** MPEG2, MPEG4, H.264 via RTP and MotionJPEG2000
- CUDA/OpenGL image processing and rendering
- Up to 6 simultaneous camera inputs with 16 (or more) active video windows
- Up to 5 simultaneous HD stream inputs with 5 (or more) active video windows

Performance using DPM-2E

- **Camera inputs:** 3 cameras in 3 windows at 30fps with 2% CPU utilization
- **Streaming inputs:** - 4 720p streams in 4 windows at 30fps with 1% CPU utilization
- 2 1080p streams in 2 windows at 30fps with 1% CPU utilization
- **Screen capture/recording:** 1920x1200 desktop with 10% content change at 15Hz with 10% CPU utilization

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The information and data given are typical for the equipment described. However any individual item is subject to change without any notice. The latest version of this brochure can be found on www.barco.com.

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