

## Camera



## Control Zone

Zone Copy Display



Width 1.00 Height 1.00



Left 0.00 Top 0.00



Pan & Tilt



Save Reset Increment



# APERTURE

## Imaging Workbench

### FEATURES

- Control and manipulation of high-quality mega pixel images
- Live streaming feeds direct to operators
- Multiple virtual Pan Tilt & Zoom (vPTZ) views
- Recordings provide retrospective analysis of processes and problems
- Simple integration with no operator interaction required
- Optional image analytics can provide alerts
- Augmented Reality overlays can add other sensor data to the visual context

### BENEFITS

- Controls the entire imaging process in one place
- Allows intimate and flexible control of the cameras
- Provides an auditable image archive with customised metadata tagging of images
- Cost effective system that saves time and money by enabling real time intervention and ease of review

### APERTURE

APERTURE is a suite of applications which sets up and controls high resolution digital cameras, and enables capture, manipulation, transmission and indexed storage of images. It can manage both directional and 360° panoramic cameras.

APERTURE allows complete flexibility of viewing, with the ability to control every aspect of the camera image acquisition process. Real-time understanding is enhanced by using image processing which is independent of camera imaging acquisition and archival.

A shared memory API allows customised analytics to be added to enable alerts both for expected outcomes surveillance incidents of interest. There is also the ability to add augmented reality (AR) overlays, for example to compare visible context with other sensor data.

All APERTURE applications have a consistent user interface which can be used either with pointing devices, such as a mouse, or with a touch screen.

### The Camera application

The Camera application is used to setup and enable live interactive or automatic control of a camera. It can be used to initiate the storage of images and image streaming to remote locations.

APERTURE includes a hierarchical filing system, which is organised to be efficiently accessed by other applications using time as the primary index. The Camera application may be configured to meet unique operational requirements, for example, to store images and other data in a single archive, create a new archive for each new day of operation, or even to create a new archive each time the application is run.

### The Review application

The Review application is used to browse, step through, search or play back an APERTURE image archive.

Multi speed review and configurable real-time image processing can be selected, including low light boost. User selected clips can be exported with metadata to a new clip.

# APERTURE

## Imaging Workbench

### Image Acquisition

- Uncompressed RGB
- Shared memory with VROI (Virtual ROI) control
- ONVIF PTZ to VROI compatible
- Streaming H264
- GPS NMEA data
- GPS and exposure metadata
- Image archiving
- All acquisition, shared memory, streaming and image archiving features user configurable

### Image Exposure



- Multi-zone ROI auto exposure control (2 x full HD ROI shown above)
- 5 configurable auto exposure modes
- 3 configurable FPS speed modes
- 3 configurable brightness modes
- Interactive exposure
- Interactive zone setup
- All photographic features user configurable

### Image Processing



- Displayed or embedded high-quality, with in-line full resolution or ROI (Full HD shown above) image processing at 60Hz
- Camera application supports simultaneous UI image archiving, GPS NMEA and ONVIF compatible H264 streaming
- Review application provides real-time playback and image processing of both "live" and pre-recorded image archives

### Image Output



Mega-pixel



4K Cinema



Full HD, HD 720, PAL, etc.



Multi-frame grids

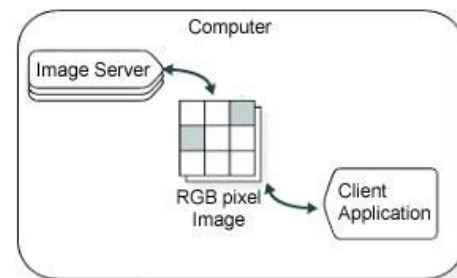
### Archiving

Archive high quality JPEG format images:

- Configurable resolution and quality dependant image file size from 600k to 7MB
- Configurable hour/minute limit file storage, with automatic file management and clean-up
- Constant, day or last recorded archiving
- User selected clips can be exported on network or local machine to a new clip with meta data
- Multi speed and configurable real-time image processing with low light boost

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### Shared Memory



Share raw RGB - or JPEG - images and imaging data - straight from the camera:

- Shared memory is memory that may be simultaneously accessed by multiple programs to provide communication among them or avoid redundant copies
- Shared memory is an efficient means of passing data between programs
- Configurable shared image type and resolution
- Bi-directional vROI control

### Streaming

- Using technologies for accelerating H264 compression on NVIDIA devices, the video encoding process carries out prediction, transform and encoding to produce a compressed H.264 bitstream



- View H264 stream using:
  - Viewer such as VLC
  - VMS such as Milestone and Wavestore
- Interact with the H264 stream using ONVIF, a global standard for the interface of IP-based physical security products, such as communication between video management systems and devices (i.e. cameras and encoders) as well as access control systems.