Sentric2
Advanced High-definition Video Recording System Software

- Powerful application code to implement video recording and network distribution systems
- Support for JPEG2000 and MPEG4/H.264 acquisition and compression interfaces
- Records multiple channels of SD/HD video
- Records multiple channels of audio
- Support for embedded metadata
- Control locally or over a network using a GUI or XML RPC application-programming interface
- Network streaming of video and audio using:
    - DEF STAN 00-82
    - UDP
    - RTP
- Built-in self-test and monitoring
- Supports rotating, solid-state and network-attached storage with optional encryption.

Overview

The Sentric2 application software is the powerhouse at the heart of our range of Video Recording & Distribution (VRD) systems.

Sentric2 provides the means for VRD systems to record, playback and distribute multiple channels of standard definition and high-definition video and audio over standard networks.

Sentric2 provides advanced functionality including support for continuous (time, location) and event-based metadata and continuous recording where older material is automatically erased.

Sentric2-based VRD systems can be constructed to support high-definition video applications in ground, naval and airborne platforms that are fully network integrated both in terms of remote control and video/audio streaming.

Typical applications include the recording and sharing of video received from sensors and the recording of operator screens for later de-brief, training or forensic purposes.

Recording and Playback

Sentric2 fully supports the recording of multiple channels of high-definition video and audio with integrated support for employing Curtiss-Wright Controls Embedded Computing's video acquisition and compression modules: Orion, PMC-281 and XMC-280.
These modules create solutions capable of real-time recording and distribution of four or more full SD/HD video sources from RGB, DVI and PAL/NTSC video sources.

In certain VRD systems the Sentric2 software permits simultaneous playback of data during recording.

Event markers can be inserted into recordings and used for finding particular segments of the recording on playback.
Sentric2 supports recording to solid-state, rotating and network-attached storage with optional encryption and RAID.

Learn More
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Above & Beyond

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Application Integration and Control

Sentric2 systems are controlled using a graphical user interface. In keeping with the network-oriented capabilities of Sentric2, control is also possible from a network-connected computer using either a browser-based client or the XML RPC interface. The XML RPC interface allows control to be built into user applications.

Specifications

- Support for Orion, PMC-281 and XMC-280 compression cards in Linux Intel-based processing platforms.
- Records multiple channels of audio and video – precise number of each depends on the specification of each individual system.
- Playback of recorded video with audio.
- Playback controls for stop, pause, play, fast-forward and reverse.
- Compresses and decompresses raw network video using the XMC-280 in co-processor mode.
- Network video streaming support for:
  - DEF STAN 00-82
  - RTP (Real-time Transport Protocol) video
  - UDP video to other Sentric2-based systems
- Software playback:
  - JPEG2000: integrated Sentric2 software viewer for stored video or video received over UDP from another Sentric2-based system.
  - MPEG4/H.264: play using standard players such as mplayer, smplayer or VLC from either stored MKV-format files or video received over RTP from another Sentric2-based system.
- Configuration files for turnkey operation.

Advanced Functionality

The architecture of Sentric2 has been designed to support advanced features such as:

- Recording and distribution of continuous metadata such as embedded time codes and GPS location within the audio/video stream.
- Enhanced support for event markers during recording and replay navigation.
- Navigation of recorded data by searching metadata.
- Replay of any video stream with any audio streams.

- Time-shift record and playback to view a video stream still being recorded.
- Uncompressed video using Curtiss-Wright's XMC-270 frame grabber.
- JPEG2000 streaming over RTP between Sentric2-based systems.
- Advanced built-in self-test and monitoring.
- Automatic time-stamping with time displayed in Sentric2 GUI.
- Recording GigE Vision video from Ethernet.
- Rolling record/circular buffering to provide indefinite recording with oldest data overwritten by new when the storage is full.
- Enhanced disk management including hot-swap and buffering video to network-attached storage.
- MIL-JSP441-compliant file naming.
- Enhanced configuration files.
- Flash/ROM-resident operation.

Figure 1: Typical Sentric2 Application

VRD/Sentric2

Multiple HD-SDI

Analog Video

Multi-spectral Sensor

Video & Control Over Ethernet

Network Router

Camera Array

Networked Client/Control

Networked Client/Control

Remote VRD/Sentric2 Recorder/Server