

ChyronHego Offers an Innovative Player Tracking System Using CSPI's Myricom Products



OVERVIEW

■ Industry

Broadcast

■ Challenge

High throughput, low latency video data acquisition.

■ Solution

Developed their own digitizing hardware to get multiple HD-SDI feeds into the 10GigE stream and uses CSPI's Myricom® 10G-PCIE2 network adapter and Sniffer10G lossless packet capture software to receive the stream into the image processing unit.

ChyronHego is a global leader in broadcast graphics creation, playout, and real-time data visualization offering a wide variety of products and services for live television, news, and sports production. Creator of the TRACAB Image Tracking System™, ChyronHego offers an innovative player tracking system that uses advanced image processing technology to identify, in real-time, the position and speed of all moving objects within arena based sports.

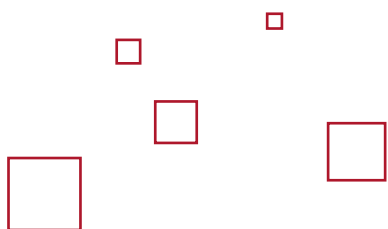
The TRACAB Image Tracking System from ChyronHego is a solution to track the x, y and z coordinates of the players and the ball and turns this data into on-air graphics and an extensive set of statistics for clients within media or team coaching staff. The system uses HD cameras to survey the total playing field and advanced stereo image processing technology to produce three-dimensional tracking in real time.

Challenge

When ChyronHego started to architect its fourth generation of the TRACAB system, their goal was to achieve the highest video quality possible for display in true real-time. The design team believed the best way to accomplish this was using two compact Super HD camera units yielding six simultaneous HD-SDI video streams to be sent across a 10GigE network to the image processing unit. The challenge was how to handle the tremendous volume (terabytes) of data from the uncompressed video streams in a manner that maintained the data integrity of the high resolution video while keeping latency to an absolute minimum for real-time visualization.

Solution

ChyronHego developed their own digitizing hardware to get multiple HD-SDI feeds into the 10GigE stream and uses CSPI's Myricom® 10G-PCIE2 network adapter and Sniffer10G lossless packet capture software to receive the stream into the image processing unit. This implementation produced both the quality and instantaneous turn-around time required by the application.



"The Sniffer API was the last piece of the puzzle for us. It allowed us to work with uncompressed HD video at a fraction of the CPU load of other solutions we tried."

Soren Kjellin
CTO, ChyronHego

The unique features of the CSPi Myricom product that contributed to the overall success of this implementation are:

- Adapters with the Sniffer10G software provide 100% lossless packet capture of the video streams, ensuring no dropped frames
- Lower jitter than standard NIC/Window implementation
- Kernel bypass reduces CPU overhead to allow for faster image processing
- Upgrade path to enable utilization of GPUs for enhanced capabilities

Results

Coaches, athletes, and fans now have access to powerful information, in real-time, to enhance their sporting event experience.

The ChyronHego TRACAB system has broad acceptance within the European soccer community. It is installed in all 20 of the English Premier League stadiums, is used at all matches in the Spanish La Liga, Danish league, and the Dutch league. It has been selected to provide the official player and ball tracking data for the German Bundesliga and Bundesliga 2.

With the introduction of the fourth generation TRACAB product ChyronHego is now also gaining recognition in the United States as the tracking technology behind the Player Pointers in the NFL coverage by FOX sports as well as being an integral part of the player tracking solution being rolled out across Major League Baseball stadiums.



The TRACAB Image Tracking System™ is installed in a sports arena to deliver true three-dimensional tracking of all moving objects on the field in real-time.

The information contained herein is subject to change without prior notice. For the latest detailed information contact your representative at +1 (626) 821-5555 or visit www.myricom.com.

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