

TimeTronics

Product brochure Video Arbitration System



2021v1

SPORT TIMING SYSTEMS



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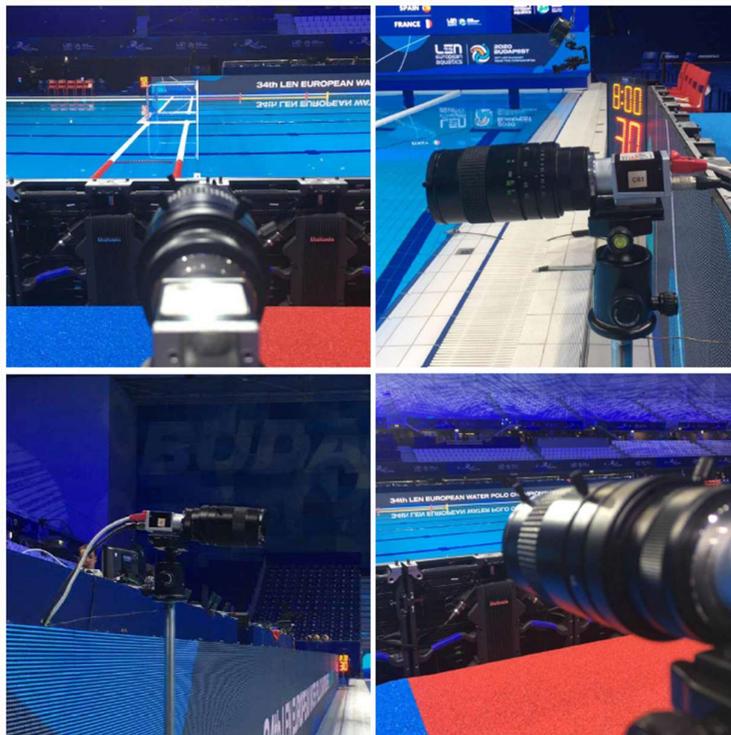
1. Synchronized IP cameras

Video Arbitration System (VAS) or **Video Assistant Referee (VAR)** is special for referee's video judgement which is able to record **up to 12 channels video in FullHD 100fps during the match**, whilst playback them in slow motion with changes in speed.

Working with match scoring/timing system, referee's score operation will be marked on the frame of video automatically. It can be used to provide the technical support when dispute happens during the match so as to reduce the misjudging, to **ensure fairness and justice of the match**.

Application:

- Basketball
- Volleyball
- Soccer
- Badminton
- Handball
- Wrestling
- Judo
- Taekwondo
- Diving
- Ice Hockey
- Weightlifting
- More ...



2. Description

Control computer and network

The **scoring/timing software** is installed on the control computer. Connecting control computer and video arbitration server to the local network.

HD cameras

8 sets of **HD cameras** are installed around the court which connects to video arbitration server via **Ethernet** (POE) cables.

Live slow motion replay

Control panel is connected to **video arbitration server** via Ethernet cable which makes referee easy to check the **playback process** and control the speed of slow motion.

Video arbitration server provides an **output video signal** which can be connected to **LED/LCD display** for live slow motion replay.



3. Functions

Nonstop video recording in the background: 1-12 channels of HD video are recorded simultaneously in the background; Video retrieval and playback is unaffected.

Synch-playback of multi-channel video: Supports playback mode of single channel video in full screen and multi-angle video in 6 windows.

Speed change in slow motion: supports 50 frame/s video playback, frame by frame.

Video event query: video stream can be divided into several video events, storing in the event list, which can be renamed for retrieve easily.

Video segment marker: Important or controversial moments can be marked in video stream which will be replayed quickly when clicking the marked records.

Professional playback control panel: configuring T-bar, slow moving wheel, speed preset function keys to make the process more convenient.

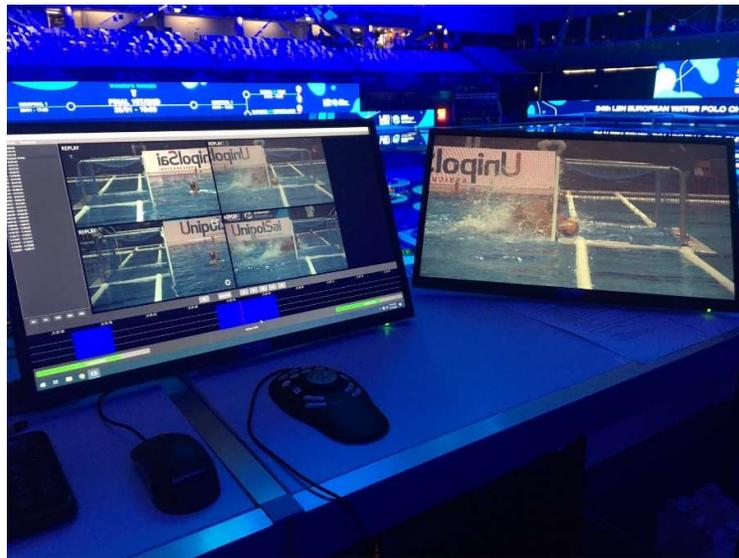
Video signal output: provides video output signal for preview and it can be connected to LED/LCD display for live slow motion replay.

4. Software

Auto generate video event: Video events will be generated automatically for quick query according to the match data that has been preset in TimeTronics scoring/timing software.

Referee's operation record: Referee's every scoring and timing operation can be recorded into the video, showed below the frame when that moment happened.

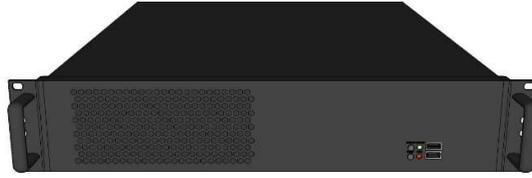
Player's point record: Player's point can be recorded into the video, showed below the frame when that moment happened.



5. Product configuration

Product	Type	Qt.
Video Arbitration Server	Server i7 8th gen. with 2 graphic card Nvidia	1
Control panel	Shuttle pro v2	1
HD Camera	1920x1080, up to 100fps	1 to 8
Tripod for camera	Tripod standard	1 to 8
Ethernet cable	CAT6	As needed
Monitor	Dell/LG 24"	2

Video Arbitration Server



VAR	
Video input	2/4/6/8/10/12 channels input synchronously
Input port	Ethernet
Video output	1 channel for playback
Output port	DVI or HDMI
Video format	1080p
Recording capacity	≥ 10 hours
Multi-screen monitoring	Supported
Weight	8kg

Contour Design Shuttlepro V.2



Specs	ProV2	Xpress
Weight	0.75 lbs	0.5 lbs
Dimensions	7.75 x 4.3 x 1.15 in	4.33 x 4.33 x 1.15 in
Wheel type	Jog Wheel Shuttle Wheel	Jog Wheel Shuttle Wheel
Buttons	15 programmable buttons	5 programmable buttons
Operating system	OSX Windows	OSX Windows
Connection	USB	USB
Driver	Available on Support page	Available on Support page
Plug-and-Play	Driver required	Driver required

HD camera

Sensor	
Shutter	Global shutter
Max. image circle	1/1.2"
Sensor type	CMOS
Sensor size	11.3 mm x 7.1 mm
Resolution (HxV)	1920 px x 1200 px
Resolution	2.3 MP
Pixel size (H x V)	5.86 μ m x 5.86 μ m
Frame rate	100fps
Mono/Color	Color
Camera data	
Interface	GigE
Pixel Bit Depth	10 or 12 bits
Synchronization	- Hardware trigger - Free-run - Ethernet connection
Exposure control	- Programmable via the camera API - Hardware trigger
Digital input	1
Digital output	1
General Purpose I/O	1
Power requirements	PoE or 12-24 VDC
Power consumption (typical)	2.8 W
Power consumption PoE	3 W
Housing	
Housing type	Box
Housing size (L x W x H)	42 mm x 29 mm x 29 mm
Lens mount	C-mount
Operating temperature	0 - 50°C
Weight (typical)	90g