JAVS PERSPECTIVES SERIES:

EFFECTIVE USE OF DIGITAL RECORDING TECHNOLOGY IN THE LEGAL SYSTEM

CAPTURING THE BEST COURTROOM VIDEO:

A COMPARISON OF CAMERA SET-UPS

BY JULIE A. HELLING, JD[1]

This white paper is provided courtesy of JAVS, a company dedicated to capturing and protecting the court record for over 35 years.

EXECUTIVE SUMMARY

The video system in a courtroom has an important and specialized job. Fundamentally, it should be able to provide accurate views of the courtroom at different locations to create a clear image that can serve as the official (or supplement to the official) court record. The method of making such a court record should be an easy process. It should not take a lot of the court's effort to make it happen, nor be so technically complicated that specially trained operators must be available to make the recording method work.

This white paper considers the use of single-camera, dual-camera, the Multi-Camera method (feed from multiple video cameras being recorded as separate images on a single screen in real-time), as well as the use of the Video Switching method (where different camera views are recorded and shown on the full screen based on who is speaking at the time). While the practice of using single, dual and Multi-Camera setups can serve some purposes, it is often important to have the capability of Video Switching to capture who is speaking, in detail, to ensure a complete and accurate court record.

Single Camera *Dual-Camera* *Quad(Multi)-Camera*

USE OF SINGLE AND DUAL CAMERA SETUP

The simplest video setup is one or two fixed cameras placed to send a static image of the entire courtroom. This approach is lower cost, easy to install, and minimally intrusive. However, it generally means a wide-angle view of the courtroom, making it impossible to focus on a specific speaker. With a single fixed camera, it can be very hard to know who is even speaking if people have their heads down.

In a single or dual camera setup, it is possible to install a camera that can physically move (pan/tilt/zoom) to focus on a speaker, but this usually requires a human operator to be present to control the camera. There are technologies that control the pan/tilt/zoom functions without a human operator, but these methods are too slow to follow the back-and-forth of a conversation. Also, the video recording would show the physical movement of the camera as it changed positions.

There are technologies that would control the pan/tilt/zoom functions without a human operator, but these methods are too slow to follow the back-and-forth of a conversation.

While a single or dual camera setup provides some coverage of a courtroom for recording a video court record, the lack of detail in the image and the cumbersome recording of all camera movement when using a pan/tilt/zoom method can offset any cost savings.

USE OF A QUAD-SPLIT VIDEO IMAGE

The typical Multi-Camera set-up is a “Quad-Split” screen image which consists of four fixed camera angles showing the judge, the witness stand, the attorney podium, and the evidence table[2] on a single screen recorded as a single stream. It may also include a wide view of the general seating area of the courtroom instead of the evidence table at times. For example, this setup is useful in video arraignments in jurisdictions such as Pierce County, Washington where a criminal defendant has the right to see everyone present in the courtroom during the arraignment in real time.

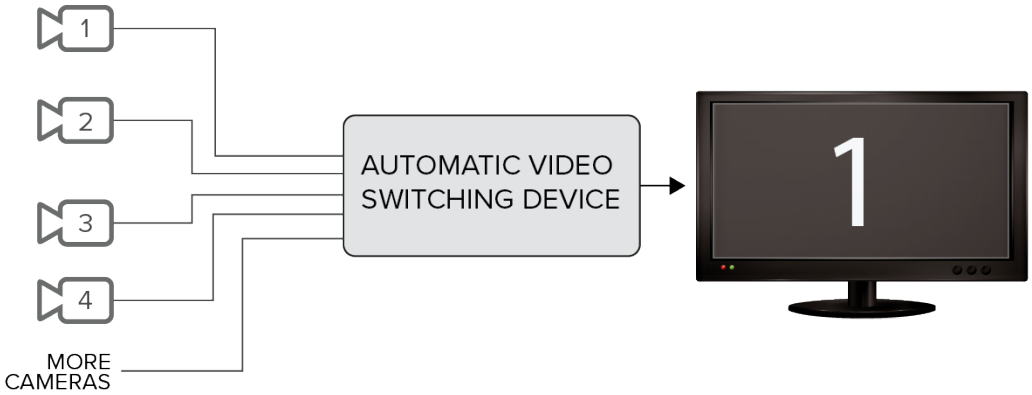
However, showing the fixed views in a Quad-Split screen format means the images are compressed into quadrants, smaller than a single video feed being displayed on the screen. This smaller size leads to a loss of clarity; it may not be possible to see someone’s lips moving and thus it may not be clear in the video record who is speaking. Nonverbal communication is lost due to the small size and it is up to the viewer to figure out where the relevant action in the courtroom is at any given time.[3]

A Quad-Split view makes sense at times such as specific video arraignments, but it does not provide as much visual detail as the Video Switching method, discussed next.

Multi-Camera can show from one to four cameras at the same time.

USE OF VIDEO SWITCHING TECHNOLOGY

Video Switching is a technology where the video feed can switch to fixed cameras in a courtroom and switch views automatically depending on who is speaking.[4] In Video Switching, fixed cameras focus individual microphones, providing seamless cuts from a view of one speaker to a view of the next speaker. The images are full-screen and provide visual detail that shows everything from the lips of a speaker moving to facial expressions and hand gestures. Because the system controls which video image is showing and then cuts to the next speaker without a delay, it is similar to watching an edited video but without needing an actual editor to put the images together.



Video Switching technology uses fixed cameras because cameras that physically pan or tilt always have a delay during which the movement of the camera is recorded and the camera has to refocus when it reaches its new position. With Video Switching, small fixed cameras

are placed strategically throughout the courtroom to minimize intrusion and ensure clear views. Instead of recording the physical movement of a camera that turns to a new position, the fixed camera views cut smoothly from one speaker to the next in the recording. This method looks more professional and is ready to be released to journalists and the public quickly as a digital download if the court so desires.

Video Switching can be easily programmed depending on the court's needs, as can single/dual/Multi-Camera setups. For example, if a judge wants to focus on one view such as a witness's reaction, the "Exclude Judge" mode could capture just the witness and the questioning attorney. Or a judge may want just the opposite and use the "Exclude Witness" mode to keep the face of a child witness from being recorded. Or the judge may override the Video Switching function to keep one camera as the "live" camera to ensure an image that does not cut to the next speaker. And if no one is speaking, the camera will switch to a "default" view, often of the whole courtroom.

CONCLUSION

The correct camera set-up for your court depends on the needs of your courtroom. It is important to consider factors including constitutional and statutory requirements (such as if the defendant has a right to see who is present in the courtroom), the need to capture nonverbal communication as well as the audio record, the need for a specially trained human operator for some set-ups, making the camera placement minimally intrusive, and cost. It is wise to consult with experts on AV for the courtroom when selecting a camera set-up for your court.

The following chart helps show the differences between camera set-ups. A camera set-up appropriate for one courtroom might not meet the needs of another courtroom.

	Single/Dual Camera	**Multi-Camera Setup**	**Video Switching**
Number of Cameras	1 or 2	Typically 4 but up to 9 with HD	2 +
Fixed Position Cameras	Optional	Optional	Typical
PTZ (Pan/Tilt/Zoom)	Optional (but camera movement is recorded and human operator may be needed)	Optional (but camera movement is recorded and human operator may be needed)	Optional Add on (clean cuts between dedicated camera views to whoever is speaking. PTZ is not typically needed).
Typical Camera View	Overview of courtroom, but wide-angle view may mean that nonverbal communication is lost.	Quad-Split typical - Camera views are small so some nonverbal communication may be lost.	One dedicated camera per microphone that switches automatically based on who is speaking - captures non-verbal communication well.

About Justice AV Solutions (JAVS)

Justice AV Solutions (JAVS) is a global leader in the planning, integration, installation, and ongoing support of audio video systems for courtrooms and justice agencies. With over 10,000 worldwide installations and 30 years of courtroom-specific experience, we have the expertise to help you design a customized, cost-effective, and scalable technology solution.

Are you thinking about installing an AV components in your courtroom, but don't know where to start? Our process begins with a complimentary consultation where our experts will chat with you about your specific challenges, listen to your needs, and help you create a specific plan of action. Whether it be evidence/media presentation, telephone & video conferencing, assistive listening, public address systems, technology integration, or simply AV recording, we not only want to partner with you to create your ideal system, but also to become a trusted resource for ongoing service, support, and upgrades in the future.

We believe that amazing things happen in your courtroom every day, and that technology should aid in that process, not hinder it. Check us out online at www.javs.com today, and allow us the opportunity to aid you in your AV challenges.

NEXT STEP

Call Justice AV Solutions (JAVS) at 1-800-354-JAVS or visit www.javs.com to schedule a consultation on the use of the FlexCam, our video camera designed specifically for courtrooms. We can help you assess whether single/dual/multi-camera or video switching is the appropriate method for your courtroom.

1. Author Julie A. Helling is a graduate of the University of Michigan Law School. She served as a prosecutor before becoming a college professor.
2. "Video Recording Courtroom Proceedings in United States District Courts: Report on a Pilot Project," Federal Judicial Center (2016) at 10.
3. For more information on nonverbal communication in the courtroom, see the white paper "Getting the Whole Story: Why Capturing Nonverbal Communication is an Important Part of the Video Court Record," Julie A. Helling (2017), available at http://www.javs.com/whitepaper-getting-whole-story/.
4. In a Video Switching system, when more than one person talks at a time, the video shot will stay on the original speaker until she stops speaking (such as staying on an attorney who is questioning a witness who is too eager to respond).