

# 2014 Video Evidence Display

Courtroom Technology



UNITED STATES DISTRICT COURT

Northern District of Indiana

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## INTRODUCTION

The USDC has successfully installed High Definition (HD) video evidence systems in Judge Miller's (South Bend), Judge Springmann's (Fort Wayne) and Judge VanBokkelen's (Hammond) courtrooms. The project concept to completion phase spanned a length of almost two years. During that time a complete and thorough research project was performed that studied numerous aspects of commercial digital video and audio integration, how it relates to our Judicial environment, cost effective design options and most of all, determining what technologies were really needed.

## PROJECT REVIEW

HD (High Definition) and megapixel digital video media is quickly becoming the standard throughout the world. Displaying this HD evidence in our courtrooms in a way that does not degrade its original quality is a task that we took seriously. Some of the findings from our study included:

1. A majority of source and display manufacturers have announced the elimination of all analog (HD15) input and output connections from their products by 2015
2. Digital camcorders, security cameras, mobile phone cameras, police dashboard cameras, computer and display manufacturers have all made dramatic advances in video resolution over the last few years by providing these devices with high definition resolutions (1920 vertical lines X 1024 horizontal lines) at increasingly affordable costs.

3. The sales and market share of the HD devices listed above has exponentially increased over the last few years, thus making the Court's need to present evidence at high resolution inevitable.
4. The Federal Courts Administrative Office (AO) has made HD the system standard for all new and remodeled courtrooms.
5. Trying to display evidence that was captured at 1920 x 1080 resolution (16:9 format) through a system with a max resolution of 1024 x 768 (4:3 format) will negatively alter the image displayed in court by drastically compacting the image by scaling the image to fit the 4:3 monitor format. The higher resolution signal will also have to be downgraded from the over 2 million pixels of its original format to approximately 750K pixels in the analog system.

## COURTROOM CAPABILITIES

Currently this HD technology is limited to one courtroom per building. However, this technology can be made available to all litigants as necessary. As additional funding becomes available, the Federal Courts will upgrade all of their courtrooms to HD standards. In the meantime, counsel who displays evidence in our courtrooms must keep in mind the evidence display capabilities of the non-high definition courtrooms as well as the capabilities and limitations of their own evidence and presentation equipment. For example, newer laptops that have HDMI as their sole video output will need conversion adaptors to work in the analog courtrooms.

The following list represents the video capabilities of courtrooms in the Northern District of Indiana.

**1. Robert A. Grant Federal Building, South Bend Indiana**

**High Definition Ready Courtrooms:**

- Judge Miller

**Standard Definition Courtrooms:**

- Judge DeGuilio
- Judge Nuechterlein

**2. E. Ross Adair Federal Building, Fort Wayne Indiana**

**High Definition Ready Courtrooms:**

- Judge Springmann

**Standard Definition Courtrooms:**

- Judge Cosby

**3. United States District Court, Hammond Indiana**

**A. High Definition Ready Courtrooms:**

- Judge VanBokkelen

**B. Standard Definition Courtrooms:**

- Judge Simon
- Judge Moody
- Judge Lozano
- Judge Cherry
- Judge Martin

## **GUIDELINES FOR EVIDENCE DISPLAY**

1. **STANDARD DEFINITION VIDEO (SD)** supports 1024 x 768 at 60 HZ (1024 vertical pixels by 768 horizontal pixels 60 times per second) 4 x 3 format (Figure 1)



*Figure 1*

2. **HIGH DEFINITION VIDEO (HD)** supports 1920 x 1080 at 60 HZ (1920 vertical pixels by 1080 horizontal pixels 60 times per second) 16 x 9 format (Figure 2)
  - Can also be 1280 x 720 (known as 720P) but not the optimum resolution for our systems



*Figure 2*

3. **HD COURTROOMS** – HD courtrooms display both standard and high definition resolution without content degradation. Standard Definition content displayed in the HD courtrooms will have a black boarder on each side of the picture so as to not alter the original content.
  
4. **SD COURTROOMS** – SD courtrooms can also display both standard and high definition resolution but will definitely degrade any HD content used. This degradation may be satisfactory if counsel’s HD presentation is not detail specific (e.g. Power Point with text only etc.) and is tested and determined as such by counsel. Counsel wishing to use DV connections must utilize the courts SD-to-HD converter device to convert their signal for system acceptance. The Converter does not accept HDMI digital component (YCrCb) signal format. SD video resolutions will display just fine through these systems but output display settings should be set for 1014 x 768 @ 60HZ.
  
5. **CONNECTIVITY** - The HD Courtrooms provide an HDMI cable at the counsel tables and podium Visual Presentation cart for connecting your laptop, tablet or phone for evidence display. A limited supply of adapters are available to convert HDMI to other digital connectors your device may have. We recommend bringing your own HDMI adapter to ensure proper connectivity. SD connectivity is also available at these locations through the familiar VGA connectors (HD15) used in all of our courtroom tech systems. As always, when using SD video connections, analog audio will be inputted to the courts sound system through a separate audio cable with a 3.5mm stereo connector. This cable is also provided to counsel at tables and presentation podiums. This cable will plug into the headset output of your presentation device.



**Figure 2**

6. **DIGITAL AUDIO (HD COURTROOMS ONLY)** The HD Courtrooms accommodate the use of digital audio outputted from most sources. Volume is controlled from counsel's source device (Laptop, Tablet, Phone etc.)
7. **WIRELESS VIDEO PRESENTATION CAPABILITIES (HD COURTROOMS ONLY) -** Wireless (video and audio) evidence display is currently available for most iOS devices (iPad and iPhone). This will allow you to carry your device throughout the courtroom while controlling your presentation. We provide this service through the use of a dedicated and secure Apple Airport and Apple TV. Limitations of this system is as follows:

NOTE: In compliance with Judiciary policy, Internet connections are not available via the Airport. All content will need to be preloaded on your device before display.

We will soon be testing Windows based wireless applications in order to support users with wireless capable devices that utilize this platform. We hope to have a reliable solution for the Windows platform in the near future.



8. VIDEO ANNOTATION – the Video Annotation System, utilized in the HD digital video courtrooms, is a much different version than the ones used in our SD courtrooms. There are many upgraded and useful features provided with this system. Scheduling a time to test and practice with the system is highly encouraged and can be arranged through the courtroom deputy.

A demonstration of the new features of the video annotation system can be found at:

**[Annotator Demo Site](#) (Click on the “See it in Action” button)**

9. DOCUMENT CAMERA - The HD courtrooms provide a HD document camera that provides all courtroom users a stunningly clear image of any document or object placed upon it. With that said, the image can also be less than desirable if counsel is unfamiliar with the new streamlined controls of the camera. The SD document cameras also provide a clear image of both documents and object in the SD courtrooms.
10. VIDEO TELECONFERENCING (VTC) - VTC capabilities remain available in all courtrooms. The image quality or capabilities have not been altered with this upgrade. VTC usage is governed via the courts [Video Conferencing policy](#) which can be found on our Internet website.

## SUMMARY

The Court has invested a great deal of time and resources in ensuring we provide all users with the most modern evidence display technologies. We will make this equipment available to you for your familiarity and testing prior to your hearing. We highly encourage counsel to become familiar with the Court's courtroom technology by scheduling a visit with the Courtroom Deputy. Training and testing will ensure compatibility issues are discovered prior to courtroom proceedings, thereby minimizing any delays.