

# **Visual Impact: Making Your Case Evidence Shine With Legal Technology**

**Written by:**

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# Making Your Case Evidence Shine With Legal Technology

## Part 1

Automated trial presentation using courtroom technology is fast becoming a common way attorneys are presenting evidence at trial and in other dispute resolution forums. Automated methods of presentation using Personal Computer ("PC") and the Macintosh systems are beginning to be utilized in arbitrations, mediations, settlement conferences, as well as in dispositive and evidentiary hearings. Hardware and software prices continue to drop, eliminating the need for an expensive "trial presentation computer system." That is being replaced with a good laptop, workable software, and an appropriately-powered LCD projector.

The development of many technologies like the internet, digital video, wide area networks, and fast PC processors have streamlined the use, effectiveness and lowered the cost of using this technology. What used to be considered only affordable and appropriate for use in the large, very complex and well-funded trial is today appropriate and priced such that even the smaller valued simple cases can justify and benefit from the advantages of automated multi-media presentations.

Automated trial presentation has been around for many, many years. In the early 90's, computer-based trial presentation systems were beginning their climb into the mainstream approach that trial attorneys used to present evidence in court. During those early pioneer days of computer based trial presentation, expenses were very high and this application was only for the very aggressively financed cases. Today, we find the same tools and many more used in just about every dispute resolution arena out there: trials, arbitrations, mediations, settlement conferences, hearings on motion for summary judgment, etc.

If one were to peak in most courtrooms today, they probably would find at least a document camera (aka ELMO), and even some built-in courtroom equipment including projectors and monitors. Traditionally, the courtroom is equipped with an easel with the large pad of paper for diagramming or some kind of whiteboard or chalkboard. You would also find some large graphic "blow up" boards used to present certain exhibits. All of these items point to the need for the attorney to illustrate and visualize for the jury or judge their point or their client's story. The idea behind an illustrative presentation has long been a part of the litigating attorneys' strategic trial plan. Probably, the most compelling statistic driving the need for automated presentation is the psychological statistic that ***"People remember 10% of what they hear and 85% of what they see and hear"***. When an attorney is dealing with a jury, this statistic becomes critical, especially if the method of communication and interpretation can be enhanced by 75% using some visual technique in the presentation.

According to jury consultants who poll jurors and do demographic research throughout the country, the average potential juror has only completed their education through the 9th grade. These jurors are typical Americans. The very same people that are watching an average of 6-8 hours of television a day! Many Americans rely on information gleaned from presentations

through their televisions to inform them. Automated trial presentation taps into that learning mechanism, educating and communicating to these average jurors in a way that they have been programmed to learn information for much of their lives.

Humans generally learn and retain information in three ways: audibly, by hearing, visually, by seeing, and by reading from a source (paper or a screen). To cover all the bases, an attorney should use all three methods when trying to convey an idea or concept to a jury or audience. Obviously, using a multi-media visual approach to presentations enhances the purpose of the presenting attorney as well as assisting the “Trier of Fact.”

“We want the Trier of Fact to remember the points we make for a reasonable period of time. With the myriad of witnesses, delays in the trial, days of testimony, and the numerous exhibits, it is imperative that the judge or jury remember our main points to apply in their decision making. The method of presentation has a significant impact on that retention of information.

Studies have consistently shown that people retain information longer with both a visual and verbal presentation.”<sup>1</sup>

Method	Retention after 3 hours	Retention after 72 hours
Telling (verbal only)	70%	10%
Showing (visual only)	72%	20%
Telling and Showing	85%	65%

The next few sections will explain the general concepts, techniques, steps, methods, and tools for using computerized trial presentation and courtroom technology.

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<sup>1</sup> The Digital Practice of Law. A Practical Reference for Applying Technology Concepts to the Practice of Law; 5<sup>th</sup> Edition; Michael R. Arkfeld, Esq.

# Presenting Evidence at Trial

Once a legal professional makes the decision to present evidence, real and demonstrative, using the technology of a computer or other device, additional decisions must be made. Let's examine those decisions.

## Types of Real and Demonstrative Evidence Presented at Trial:

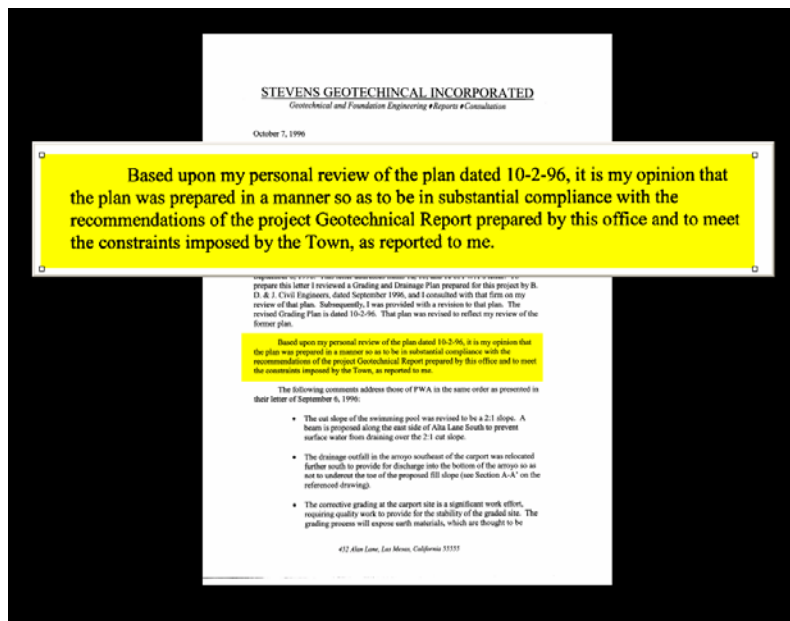
Computer technology has given the attorney the ability to present different types of digital evidence and exhibits at trial.

- Document Images
- Photographs
- Charts and Graphs
- Audio and Video
- Computer Animation

## Document Images

Document images are the most displayed piece of evidence in trial. Most cases or “stories” are told by the long path of the “paper trial.” It usually is the evidence that a party must use to prove its case. Document images can be created from the original paper copies at any phase of the litigation. That is to say, that even up to the last minute, which I don't recommend, a litigation team can have certain exhibits scanned and prepared for computerized presentation at trial. In general, it is a good idea to have the document portion of the case scanned early in the litigation and loaded into a Case Management System. Document evidence presented at trial, according to most attorneys, is the most important aspect of the case, but the most tedious for the Trier of Fact. Trying to recall and mentally manage the massive amount of document evidence presented at trial is very difficult for a juror.

Some of the more common techniques used for presenting documents at trial are the same methods and techniques that we have been using since the advent of trial presentation technology in the early 90's. The basic zoom and highlight is still a powerful tool, and very effective. Shown below, this simple technique is how jurors are learning and retaining specific document information in a case. When asked about the deliberation process, most jurors tell us that they are not reading every document received into evidence, but rather recalling the document "enhancements" we did during the trial proceedings.



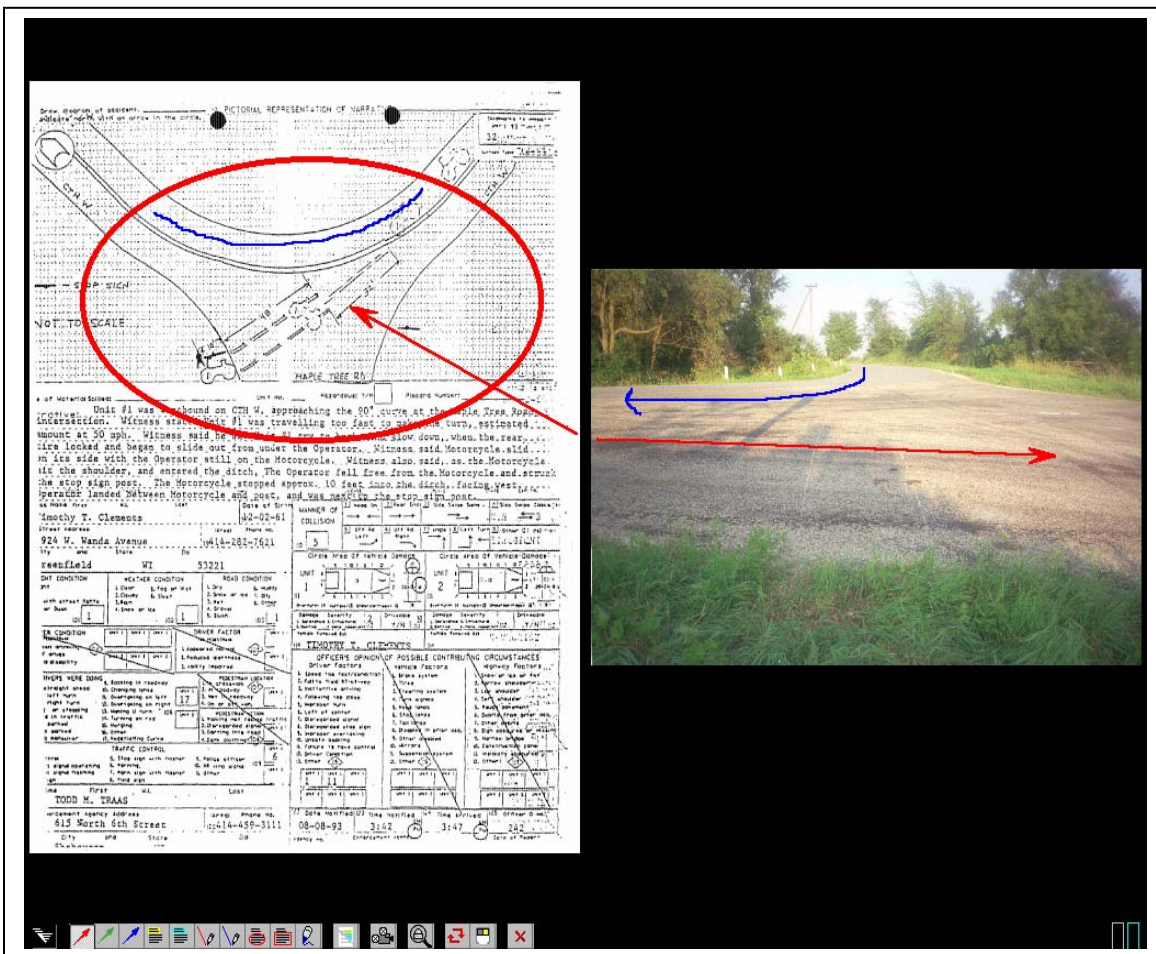
Thus, we are finding that during the trial, we may get one chance to show the judge or jury the relevant information or section of a document we would like them to consider. Simple as this technique may seem, don't take this simple technique for granted. Additionally, we find that using the stipulated document exhibits in the opening statement has a much greater impact than creating our own, "lawyer hand-made" graphics. The jury puts a higher level of credibility on a graphic made from the actual document exhibits than a graphic created by the trial team.

The other most popular method is using a "tear out" technique found in most trial presentation software packages. Compare the following two pieces of identical documentary evidence.

Imagine that the image on the left is a reduced size replica of a large foam-core board prepared for trial. It is then placed on an easel before the witness and the jury. Imagine, a trial attorney uses a pointing device attempting to bring the attention of the witness and jurors to two specific points of the document. Then, imagine presenting on computer monitors that same document as shown by the image on the right, being able to cut out and enlarge the points of interest from the document. You can easily see the effectiveness of the presentation of the same documentary evidence by displaying it electronically using presentation tools built into the selected trial presentation software.



As another example, consider the diagram below. This illustrates the use of using two different types of exhibits at the same time.



This is a view of two types of digital evidence presented together. The diagram on the left is the police sketch of the accident scene. The photo on the right was taken at the scene. The annotations (arrows) show the skid marks on the photo and point to the skid marks on the police diagram. This type of information needs to be clear to a juror, when describing, for example, the expert's report on the accident reconstruction.

## **Photographs**

As illustrated above, photographs can be scanned and used when presenting evidence at trial. Scanning a photograph is similar to scanning a document. The process to scan a photograph may take a bit longer but usually yields excellent results. Most scanners sold today in computer stores scan color photographs. These files become digital files that can be displayed at trial just like document images. Additionally, as you saw in the example above, photographic presentations can also be enhanced with arrows and highlights to assist in directing the witness and jury's attention to a specific point. The use of digital cameras has also made showing photographs in court easier since the original photograph is already captured and stored in a digital format and can be easily transferred to a laptop for display in court.

## **Computer Animation and Graphic Simulations**

Computer animation is a simulation that is representative of a physical event or process. It is based on the actual objects from the event or process that is being depicted. Animation is still a complicated process and requires the time and expense of engineers and highly trained animation technicians.

One of the most useful and effective illustrative methods to explain to a jury a process, a cycle, or an event is through the use of Full-Motion 3-Dimensional animation. It usually is built on physical evidence and data that is derived from the particular event or process that is going to be depicted through the animation.

In the recent past, animations were very expensive to produce. The price of the combination of hardware and software prices was very high for animation companies, and they had to pass that high cost on to the client. Today, the price for hardware and software to create these animations has dropped significantly, compared to what it was just 10 years ago, and thus the fees for most animations are lower.

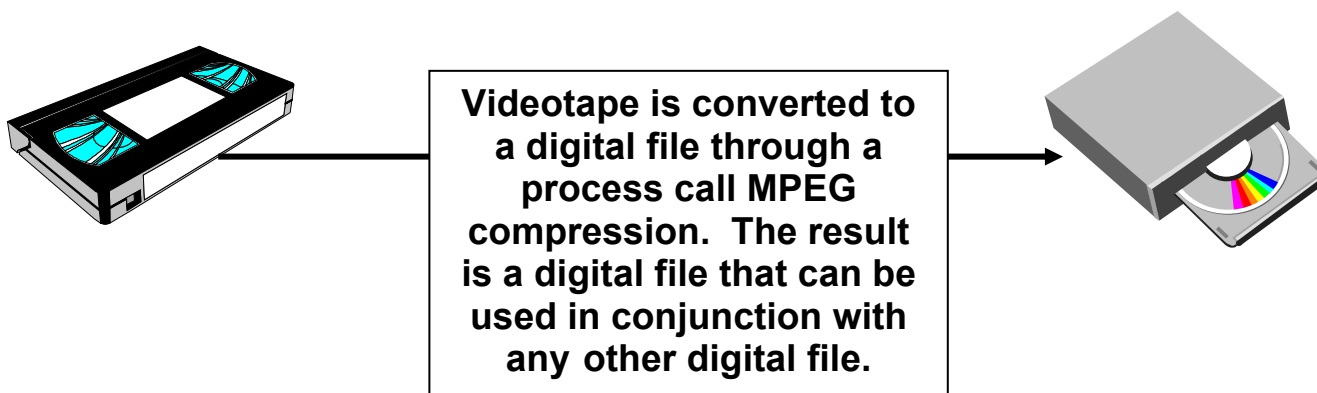
Animations can be subject to objections from opposing counsel in trial. To overcome that, you need to be particularly careful on how the animation is created, who creates it, what type of physical evidence, data, and what assumptions were used in producing it. In most instances an animation is used with the testimony of an expert witness who lays the foundation for the animation and testifies to the accuracy and the methodology in its creation. In most cases the animator is not the expert who testifies to the authenticity of the data used in creating the animation.

## Video Deposition Technology

Using Video Taped deposition has many advantages in preparing your case. The three most common are: 1) the video tape captures the witness's face and body demeanor; 2) it is one of the most powerful impeachment tools at trial, and 3) the video tape deposition can be used later to replace live testimony. All of the above methods are simplified by using the video technology tools that have been developed. Many litigation support software packages have integrated "Video-To-Text Synchronization." That phrase describes the process of linking video to the text of the deposition transcript. The software applications Live Note, Sanction and DepoDirector all have integrated tools to allow an end user to work with depositions for text search and retrieval management. Additionally, both Document Director and Sanction have programmed scripts that allow them to "link" to the search, retrieval and organization of Summation's transcript manager.

### Digital Video

Digital Video is the process of converting the analog videotape to a digital file. The digital file is then transferred to a portable storage media such as CD-ROM, DVD or one of the many external storage devices such as a Fire-Wire Drive or USB drive.

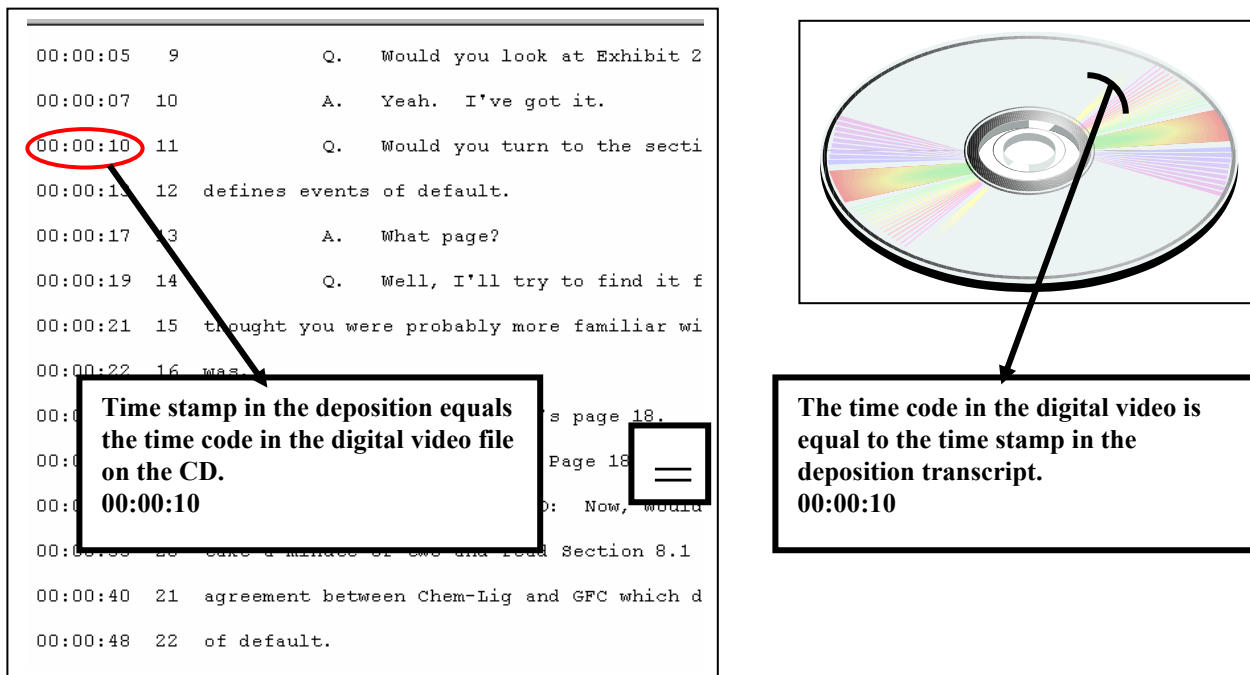


The result is a file that is in one of the many digital video formats. MPEG-1 (Motions Pictures Experts Group) has been the most commonly used file format. Most Video-To-Text Synchronization applications work with one of the MPEG formats (1, 2 or 4). The Standard DVD movie video format that plays on a DVD player at home is not really suitable for using today's litigation support software tools. However, the storage capacity of a DVD makes it a good choice for storage of video data in MPEG format. Thus, if you receive a video that is in movie DVD format, you will probably have to convert this file or "rip it" to an MPEG format for use with the more common Mac or PC tools. The playback of these digital video files can be performed on practically any Apple PC or Laptop and does not require any special devices.

## Video to Text Synchronization

In the automated litigation support arena, when you combine digital video technology with a deposition transcript file you get what is defined as a “Sync’d Transcript”. The method you use is “Video-to-Text Synchronization” as mentioned above. In general, time stamps from the digital video file are placed at the beginning of each line throughout the entire transcript. These time stamps correlate with the digital video file, synchronizing the two. Regardless of where you are in the deposition transcript text, you will be able to locate the corresponding digital video segment from the matching the time stamps.

A schematic of the Video-To-Text Synchronization process is shown below.



With the two files synchronized, the end user can be at any page and line in the deposition, and immediately, with the click of the mouse or the press of a key, view the corresponding video. With the integration of this technology into a sophisticated full text search and retrieval engine, the user has the combined power to store, organize, manage, and instantaneously retrieve the deposition text, page and lines, and the corresponding video clips. For example, most trial presentation software applications in Video-to-Text Synchronization, allow the user to click and drag their mouse across the lines of a desired deposition excerpts, similar to the designation that are made with highlighter on a hard copy. Then, with the click of a mouse, the transcript excerpt and associated video segment, both are stored and given a segment name. The segment can then be played back through the software application instantaneously from at anytime.

## Audio Mining

One of the more modern tools to assist in the process is known as “Audio Mining” takes the video file and the transcript and automatically synchronizes it for you. This process can significantly cut down the time to “time stamp” a deposition. There are some things to consider when using this process. First, if you have a deposition in which the witness does not speak English and an interpreter is used, the audio mining will not work properly causing severe problems in the time stamping process. Also, although sophisticated in theory, there are still some concerns about the complete accuracy of the synchronization and you will still need to check the more important video clips for time stamping accuracy.

There are a few steps to consider when using Video-To-Text Synchronization:

1. If possible, have the videographer produce for you the video in a digital format. Most videographers are using “digital video recorders” on “Mini-DV” formats. They usually have the ability to download the video file from their camera directly to their laptop. They can then either convert the file to a MPEG format or simply give you a copy of the digital file on CD or DVD. In either case you will save on the expense of converting a video tape to a digital format. If you get a VHS tape of the video deposition, you can have that tape converted to a digital file by a qualified vendor or, with the proper hardware, do it yourself.
2. Ask for the deposition transcript in a digital format. Most court reporters provide this, or an e-mail attachment of the transcript.
3. Make your decision on the litigation support software you will be using. This will have some effect on the way you have your resulting files produced. Although most software applications can convert from one software to another, it is always wise to start and end the process with the same software application.
4. Test the final file results you get from your vendor or you in-house litigation support staff. Common mistakes are time stamps that are out of place (a common problem when using Audio Mining), or video files that have the audio and video out of synchronization such that the words are heard before or after the subject’s mouth actually move.
5. When creating digital video clips for use in trial or in any other presentation forum (settlement conference, evidentiary hearing, etc) always preview the video clip. Carefully chosen deposition excerpts may read very well but when displayed with video and scrolling text may have the impact you expect. Common problems are that the clip may take too long, the witness may look exceptionally bad or good, believable or not so believable.

## **Steps in Automating a Case for Trial**

### **Appoint a Project Leader or Coordinator**

This should be someone who is extremely familiar with the technology. They should also be the “point of contact” with any consultant or vendor that is being used to assist in the trial’s automated presentation. They should possess a good measure of technical competency. The Project Leader should realize it is very important to be sensitive to communication and deadlines. A great deal of the work in automating a case is the planning and scheduling. This person should oversee the automation of the case including, but not limited to, picking the scanning vendor, setting up training schedule, coordinating with trial technology consultants and equipment vendors, etc. The Project Leader should not be spread too thin as to overshadow any other duties they may have that are important and relevant to the trial team.

### **Make decision to digitize the case-related evidence**

This decision is better made early in the litigation, but can be employed at any stage of the case development. Once this decision is made, select a comprehensive and compatible case management system in which to organize your case.

### **Select the Litigation Support Software**

This decision should be done early in the process. Most firms choose a litigation support software or trial presentation software on a firm wide basis. Once selected, the litigation team and staff must be oriented to the technology tools available in the various applications.

### **Training, Discovery Phase**

The next step is training. Training must take place at two times. First, is in the discovery phase. Using computerized litigation management systems which incorporate databases, transcript or text search & retrieval, image management, outliners, and the ability to develop a case timeline is beneficial to the legal staff managing a case. With the proper planning and training, this system of electronic evidence management can be carried through to trial. You can never do this type of training too early. Training early in the project will allow team members to get to a comfort level that will allow them to use the benefits of the technology without losing their focus on case-related legal work. It also gives them a chance to ask questions and have follow-up sessions in solving specific problems or requests by the team. Firms are now choosing to have the training done immediately after they select the litigation support software. In addition there are now on-line training tools that can train legal professionals 24 hours a day 7 days a week on most litigation support software applications (see [www.legaltechnet.com](http://www.legaltechnet.com)).

## **Notify the Court for Approval to Use Technology**

In some instances simply notifying the court of your desire to use technology is sufficient. On rare occasions you may have to file a motion or submit a brief as to why and how you plan to use it. In these instances the court may not have the experience of trying a case where the major method of presentation is done with technology. You may need to “educate” the court on your intent and the process you plan to use. Typically this topic is discussed at the pre-trial conference. This may still give you time to resolve any objections or problems that may arise. In some instances you may want to also check to see if your adversaries plan on using technology in the courtroom. You may come to an agreement as to what additional equipment you both need, thereby reducing the overall rental or purchase costs. There is some strategy as to when you decide to notify your adversary as to your intent to use technology. Just use common sense.

## **Establish a Contact with the Court**

It is always important to establish a contact with a member of the judge’s staff. This person is usually the court clerk, the bailiff, or the judges’ secretary. This court staff member should be someone you can coordinate with for entrance to the courtroom before the trial starts. This court contact will be a valuable source of information as to what you can do in the courtroom and what is not allowed. This person will also be a valuable source of information as to what type of equipment is allowed in a specific courtroom, where the judge does not allow monitors, etc. Best case scenario, you will need at least one day to wire the courtroom in advance of the trial date, however, you may not have that much time in advance. Your court contact should be able to assist you with this scheduling.

## **Inspect and design the courtroom**

As early as possible, the trial team, often with the assistance of an experienced consultant, should inspect the actual courtroom where the trial will be held. By making arrangements with the court contact, the trial team should arrange to spend at least one hour taking measurements and notes of the actual courtroom and sketching out the room and its permanent furnishings and fixtures. Some of the more important things to look for when you inspect your courtroom are the overall size, the dimensions of furniture, the power availability, where the electrical outlets are, the arrangement of the furniture, where the jury sits, where the judge sits, and the overall spatial arrangement of the courtroom. The trial team will need to know how the technology will fit in the courtroom. You should walk away from this visit with at least a sketch of the courtroom that will assist you on the size and type of hardware you plan to use. Also, ask your court contact if you can come back for follow up visits. Unfortunately, each courtroom is a little different. Even courtrooms in the same building and on the same floor are not identical. There is no “cook book” recipe for placing hardware in a courtroom and wiring the cable to each component. Someone experienced in automating a courtroom needs to view and inspect the courtroom each for each trial.

## **Select the additional hardware and courtroom equipment**

The hardware portion of this decision is based on what equipment, if any, is in the courtroom. We are finding more courtrooms with some technology built into them, especially at the Federal level. Many equipped courtrooms have jury monitors for each jury (or every two jurors). However, we feel the best method of displaying the multi-media trial presentation is to use a large screen and projector so that you can focus the jury in one place. Don't rely totally on the court, their staff and their equipment for your presentation. Once you know the courtroom you can begin to decide the rest of the equipment necessary to optimize your trial presentation. .

## **Designing the War Room**

The equipment in the war room is just as important, as the equipment in the courtroom. Typically, if an attorney or a law firm decides to use technology in the courtroom for automated trial presentation purposes, they will want similar technology in a war room. In most cases, the war room is in the office of the law firm involved in the case. In this case, the war room becomes the offices and conferences of the representing law firm. It is when the trial team must travel to another city or location to try a case that some additional planning becomes necessary. During the course of the trial, many changes will be made to the electronic presentation. The war room is the ideal place for this to occur. War rooms are also used for other technology applications, such as preparing a witness to view evidence on a computer monitor, receiving and sending faxes, an Internet connection, immediate scanning capability for document and photographs that come in during trial, etc.

## **Training in the Trial Phase**

A final training session should be held to train the trial team on the exact trial courtroom procedures and the use of the presentation system. Attorneys who will be examining witnesses should become familiar with the system, or understand the procedure and protocol of asking a system operator to display a specific image or enhancement. In addition, it is useful to familiarize your witnesses with the technology so that they are not surprised in trial.

## **Setup and Installation of the Courtroom Equipment**

At this point, you should make an appointment with the court contact to set up, install and test your equipment in the courtroom. Ideally, if you can get into the courtroom with sufficient advance time, you should go through a dry run of examining a witness and displaying exhibits on the courtroom system. Every installation is different because every courtroom is different and every equipment plan is different. Plan on delays and some equipment problems. Make sure you have a backup plan for equipment and hardware in the courtroom, i.e. a spare monitor, laptop, etc.

## Part 2

### Strategic Graphics in the Courtroom

Studies have shown that many jurors make their decision based on the opening and closing statements. It is the first and last chance a trial team has at making a good argument directly to the jury for their case.

Two dimensional computer graphics are the most widely used in trial and can be created to educate and convince a jury without confusing them. Most are easy to produce and present.

“Static” demonstratives used in court are in their final presentation format and are not interactive or dynamic. The entire graphic is shown on a “two dimensional” palette such as a foam core board or a computer generated graphic that has no “moving parts.” Static graphics are sometimes useful and can be effective. However, sometimes last minute changes to the demonstrative need to take place. Any veteran trial lawyer or consultant can tell you that this kind of change is inevitable. Objections and rulings can change the exact content of a graphic. If changes are required to these “static” graphics, a trial team can find itself at the mercy of an off-site graphics technician or an overnight courier service. In addition, a graphic produced on a board can only be viewed by those who are positioned in front of it.

Graphics that are “interactive” have the effect of involving the jury or judge, focusing on points as they are introduced or “build.” The “strategy” behind these dynamic graphics is to use motion to “liven” up the graphic for the courtroom audience.

For example, a graphic illustrating the relationship between a company and certain entities, such as officers, accountants, lawyers, should employ a step-by-step presentation which helps the audience to more clearly understand the relationships. Using this simple technique, an attorney can slowly “build”, both graphically and “mentally”, the relationships.

One of the most powerful applications of the “build” technique is in the presentation of a timeline. In almost every case some style of timeline is used. Building the timeline, one event at a time, becomes very important in emphasizing the importance of each event and its significance to the case. Also adding supporting documents to the timeline build adds credibility to the presentation.

Opening statements, examinations of key expert witnesses and closing arguments can be enhanced with good strategic graphics. Keeping the audience's focus on key graphics is critical. The methodology and techniques used by trial teams can sometimes backfire if their approach to the graphics is not carefully considered.

## Part 3

### Enhancing the Expert Witness Testimony: The Expert from the Academia World.

In many instances, an expert witness comes to the lawyer from the world of academia. Presentations these experts traditionally give in their daily lives are vastly different than the one you will ask them to perform in court. Most of these academic experts are accustomed to teaching in a classroom or lecture hall, or delivering a speech at a conference. In these linear environments they are allowed to “lecture” in a free format. These audiences are different from a jury in mainly two ways: 1) their audience is already, to some degree, educated on the topic that is being presented, and 2) their audience is very eager to learn the material that is being presented. Neither of these scenarios is commonly true with a jury.

In addition, the presentation format in the courtroom is completely different. You are all familiar with the Rules of Evidence and Civil Procedure regarding the examination of a witness. Once on the witness stand, most academic experts forget that they cannot begin speaking freely about a topic or issue. They need to be reminded that they are “fed” the question and then must give a specific answer. Often they tend to carry on with an explanation of their opinion or position, ultimately resulting in a narrative objection by an attentive opposing counsel.

One of the ways we like to help overcome this problem is by using illustrative aids or graphics. Using demonstratives is always a good idea to assist in conducting the examination of your expert witness. Visual aids can assist with the testimony of your expert regardless of the topic to which they are testifying. Not only can graphics and demonstratives assist in the testimony, but the graphic can also be used as a “visual outline” for the expert who may have difficulty remembering “where we are going next.”

In most cases, experts need to tone down their testimony as they speak to a layman jury. Demonstratives and graphics assist with this task by adding the “visual component” to the presentation. Carefully conceived and prepared graphics can assist in breaking down the topic to understandable levels.

We recommend creating graphics using a “build technique.” In our last newsletter we discussed how to employ this build technique. Briefly, we “animate” our graphics so that they build one step at a time. Placing an entire graphic with many objects on the screen at once has been found to confuse jurors as to the message of the graphic. In using this build technique, your expert can walk the jury through each point of the graphic, giving the expert the opportunity to “lecture” their way as each build of the graphics is revealed.

Another suggestion is to have the expert get up out of the witness chair (with the court’s approval) and move to the display screen to testify to the jury in a more personal and interactive manner. This can also be done even when showing your case evidence such as documents or photographs. Using this method will leave the impression that the expert is part of the graphic or evidence. We want the jury to remember the testimony as well as what is displayed to give both a more impacting impression.

Another technique we use is to provide the expert with a hard copy of the fully built demonstrative before they begin their testimony about the graphic. Once you overcome any objections, whether you are using a graphic demonstrative or an exhibit, you can then proceed with the testimony. Your expert can review the graphic from the hard copy showing it fully built. They are reminded in advance of each step that is coming and can mentally prepare what they are going to say before the question is posed.

The result is more concise testimony from your expert witness in an environment which is often uncomfortable and intimidating, even for the most seasoned academic lecturer.



# Legal Technology Consulting

## Leading the Team of Expert Consultants

**LTC offers the talents of the best strategic trial technology and computerized litigation support consultants in the country.**



### **Timothy A. Piganelli, Founder of LTC,**

is recognized as one of the country's top trial consultants in the areas of trial strategies, trial presentation, courtroom technology and computerized litigation support. He has been consulting to legal professionals and their clients since 1989.

Tim's vast trial consulting experience provides expert insight to advise clients on strategies for the best use of technology to create effective illustrative presentations for jury comprehension. He began his professional career as a consulting engineer in accident reconstruction. In 1993 he transitioned to consulting and training in all aspects of litigation support from document imaging to computerized trial presentation.

Tim founded Legal Technology Consulting in 1996. His technical engineering background combined with his extensive computerized litigation support experience make him a unique problem solver for his clients. His case management expertise, ranging from discovery evidence management to trial presentation, demonstrative graphics and courtroom technology make him a one-of-kind expert consultant.

Tim lectures nationally and authors articles for:

<b>American Bar Association TechShow</b>	<b>ABA publications</b>	<b>Paralegal Associations</b>
<b>State &amp; County Bar Associations</b>	<b>National Court Reporters</b>	<b>The Rutter Group</b>
<b>Glasser LegalWorks</b>	<b>Law Office Computing</b>	<b>LegalTech</b>

He is an adjunct professor at Sacramento's McGeorge Law School, Southwestern University School of Law in LA, and University of Denver, teaching Computer Assisted Litigation. Tim holds Mechanical Engineering and Industrial Engineering Technology degrees from Arizona State University.

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## Tim Piganelli List of Seminars & Teaching

May 25 – July 17, 2004	Southwestern University School of Law, Los Angeles, CA Adjunct Professor
March 26, 2004	“Strategic Graphics and their Evidentiary Challenges” American Bar Association TechShow2004, Chicago, IL
March 5, 2004	American College of Trial Lawyers Association Spring Meeting, Scottsdale, AZ
Jan. 16 – April 30, 2004	McGeorge Law School, Sacramento, CA, Adjunct Professor
May 28 – June 23, 2003	McGeorge Law School, Sacramento, CA, Adjunct Professor
March 16, 2003	“PowerPoint Creation for Litigators”, National Court Reporters Association, Legal Video Forum, Phoenix, AZ
July 29 – Aug 9, 2002	McGeorge Law School, Sacramento, CA, Adjunct Professor
March 14-16, 2002	“Trial Graphics 101: A Do-It-Yourself Guide,” “Cutting Edge of Trial Technology: What to Use, When to Use It, and When NOT to Use It” American Bar Association TechShow2002, Chicago, IL
February 25, 2002	“Technology Tools for Employment Litigation,” State Bar of Arizona, Employment and Labor Law Section Meeting, Phoenix, AZ
March 16, 2001	“Computerized Trials in an 1890’s Courtroom,” “Roll Your Own Digital Video” American Bar Association TechShow2001, Chicago, IL
September 23, 2000	“Understanding and Mastering the Magic Power of Computers in Employment Law Trials and Discovery,” State Bar of Arizona Annual Employment and Labor Law Conference, Sedona, AZ
September 1, 2000	“Ironic Lessons from the Unabomber Case: A Case Study of the Use of Technology to Manage Discovery and Trial,” LawNet 2000, Palm Springs, CA
March 7, 2000	“Taking Techo-Presentations into Everyday Courtrooms Whatever the Budget,” Glasser & Daily Journal Corporation, LegalWorks 2000, San Francisco, CA
August 13, 1999	“Trial Presentation and Courtroom Technology,” Colorado Defense Lawyers Association Annual Convention, Vail, Colorado
March 18-20, 1999	“Litigation Lifecycle – Automating Your Personal Injury Case” American Bar Association TechShow99, Chicago, Illinois
August 7- 9, 1998	“Document Imaging and Its Impact on Your Business,” “Video/Text for Trial Presentations,” ACT ’98, National Court Reporters Association Annual Convention, Chicago, Illinois
March 26 - 28, 1998	“Litigation in Courtroom 21,” “Electronic Litigation Life Cycles I and II,” “Deploying Litigation Databases” American Bar Association TechShow98, Chicago, Illinois
September 11, 1997	“Litigation Support and Courtroom Technologies” – National Federation of Paralegal Associations Mid-Year Conference, Scottsdale, Arizona
July 24, 1997	“Integrating Courtroom Technology”, and “Video to Text Synchronization” ACT ’97, National Court Reporters Association Annual Convention, Orlando, Florida
June 19, 1997	“Automated Trial Presentation and Courtroom Technology”, “Litigation Support and Document Management” and “Using the Internet for Legal Applications”, South Dakota Legal Assistants Associate and The South Dakota Bar Association, Pierre, SD
June 4, 1997	“Law Technology for the Smaller Firm”, The Rutter Group/ West Publishing, Santa Monica, CA
May 29, 1997	“Law Technology for the Smaller Firm”, The Rutter Group/ West Publishing, San Francisco, CA
November 7, 1996	“Automated Trial Presentation and Courtroom Technology”, Litigation Management Technology, The Rutter Group Presents, San Francisco, CA
October 30, 1996	“Automated Trial Presentation and Courtroom Technology”, Litigation Management Technology, The Rutter Group Presents, Los Angeles
August 4 - 6, 1996	“Imaging and Document Management”, “Litigation Support and Case Management in the Field,” and “Video to Text Synchronization” ACT ’96, National Court Reporters Association Annual Convention, San Diego, California
July 19, 1996	“Automated Trial Presentation and Courtroom Technology” - National Association of Legal Assistants Annual Convention, NewOrleans, Louisiana
June 14, 1996	“Document Imaging and Automated Trial Presentation” – Lakeland County Bar Association, Lakeland, Florida
February 19, 1996	“Imaging and Electronic Trial Presentation” – Florida State Bar, Young Lawyers Section Meeting, Ft. Lauderdale, Florida
January 25, 1996	“Document Imaging Security” – Legal Tech, New York City, New York
October 10, 1995	“Document Imaging Security” – Arizona Chapter of American Record Management Association, Phoenix, Arizona
September 18, 1995	“Document Imaging Security” - New Mexico Chapter of American Record Management Association, Santa Fe, New Mexico
June 24, 1995	“Courtroom Technology and Trial Presentation” - Legal Tech, Los Angeles, California

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## PARTIAL LIST OF TRIALS & TRIAL PREP

<b>Gordon, et al. vs. Microsoft</b> Minneapolis, MN	<b>Gruner + Jahr vs. Rosie O'Donnell</b> New York, NY
<b>Tracinda Corporation vs. DaimlerChrysler Corp.</b> Wilmington, DE	<b>CRC vs. Harrah's Entertainment, Inc.</b> St. Paul, MN
<b>Bublitz vs. duPont</b> Des Moines, IA	<b>Seidl vs. Wisconsin Public Service Corp.</b> Green Bay, WI
<b>Sunny Fresh Foods, Inc. vs. Michael Foods, Inc &amp; North Carolina State University</b> Minneapolis, MN	<b>Exxon Valdez Oil Spill Litigation (Consolidated)</b> Anchorage, AK
<b>Jeffrey Katzenberg vs. The Walt Disney Company, et al.</b> New York, NY and Los Angeles, CA	<b>Pioneer Liquidation Corporation vs. San Diego Savings &amp; Trust</b> San Diego, CA
<b>Ericsson vs. Qualcomm</b> Marshall, TX	<b>Rezulin Product Liability</b> New York, NY
<b>JP Morgan vs. Liberty Mutual, et al.</b> New York, NY	<b>Ericsson vs. Harris</b> Dallas, TX
<b>Baptist Foundation of AZ vs. Arthur Andersen</b> Phoenix, AZ	<b>National Instruments vs. Mathworks</b> Marshall, TX
<b>Penn Mutual vs. Investors Consolidated, et al.</b> New York, NY	<b>Intel vs. Broadcom</b> Wilmington, DE
<b>National Instruments vs. Mathworks</b> Marshall, TX	<b>State of New Mexico vs. General Electric</b> Albuquerque, NM
<b>AT&amp;T Broadband vs. General Instrument</b> Denver, CO	<b>Little vs. KPMG</b> Houston, TX
<b>Pioneer vs. Monsanto</b> St. Louis, Missouri	<b>Airtouch vs. Cellexis</b> Phoenix, AZ
<b>EDS vs. Xerox (Markman Hearing)</b> New York, NY	<b>Peterson vs. BASF</b> Ada, MN
<b>Axcellis Inc. vs. Applied Materials Inc.</b> Boston, MA	<b>Lehman Brothers vs. Minmetals</b> New York, NY
<b>Bangert Brothers vs. Kiewit Western</b> Denver, CO	<b>Interactive Technologies vs. Avnet</b> Phoenix, AZ
<b>Hollywood Casino vs. Lexington Insurance</b> Shreveport, LA	<b>Jacobson vs. GTE</b> Dallas, TX
<b>Brake Asbestos Jury Research</b> Houston, TX	<b>Remax vs. RealtyOne</b> Akron, Ohio
<b>DeGroot vs. Western Commerce Bank</b> Carlsbad, NM	<b>Pacific Southwest Bank vs. EDS</b> Dallas, TX
<b>BMS vs. Repligen and the University of Michigan</b> Detroit, MI	<b>Parks vs. Honda</b> Santa Rosa, CA
<b>National Riggers vs. St. Paul Insurance</b> Kansas City, MO	<b>MarkAir vs. Alaska Airlines</b> Anchorage, AK
<b>Alphamed, Inc. vs. B. Braun Medical Inc. and McGaw, Inc.</b> Atlanta, GA	<b>Pioneer Liquidation Corp. vs. San Diego Savings &amp; Trust</b> San Diego, CA

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<b>Seagram's &amp; Sons vs. SMS LTD</b> Los Angeles, CA	<b>Standard Charter vs. Price Waterhouse</b> Phoenix, AZ
<b>RAG American Coal Co. vs. Cyrus Amax Miner</b> New York, NY	<b>Bastek vs. Sea-Land Services, Inc.</b> Hackensack, NJ
<b>Allied Construction vs. City of Scottsdale</b> Phoenix, AZ	<b>Bull Run Corp. vs. Ernst &amp; Young</b> Atlanta, GA
<b>Coho vs. Hicks Muse</b> Dallas, TX	<b>Intel vs. Maricopa County</b> Phoenix, AZ
<b>Soto vs. State of Arizona</b> Phoenix, AZ	<b>Jan Henric Buettner &amp; Andreas Von Blottnitz vs. Bertelsmann AG, Bertelsmann, Inc. &amp; Thomas Middelhoff</b> Santa Barbara, CA
<b>Todd vs. CJ Management</b> Phoenix, AZ	<b>Kaiser Resources Recovery vs. Touche Ross</b> Denver, CO
<b>Rice vs. Paladin Press</b> Washington, DC	<b>Johnson vs. CBS</b> St. Paul, MN
<b>Schubot vs. McDonalds</b> West Palm Beach, FL	<b>Kiegche vs. Chiange</b> Tampa, FL
<b>Heime vs. Amaco</b> Albuquerque, NM	<b>Ruiz vs. Los Angeles Sheriffs Department</b> Los Angeles, CA
<b>Ohlhausen vs. Sacks Tierney</b> Scottsdale, AZ	<b>Sergio vs. West Valley Mission School District</b> San Jose, CA
<b>Steadfast Insurance vs. St. Jude Medical, Inc.</b> Minneapolis, MN	<b>Penners vs. TDMC</b> Tucson, AZ
<b>United States vs. Basler Turbo Conversions</b> Phoenix, AZ	<b>Howard vs. Utah Home</b> Phoenix, AZ
<b>EFCO vs. Symons Corporation</b> Des Moines, IA	<b>Clouse vs. Maricopa County</b> Phoenix, AZ
<b>Terry Stokes vs. WCCO, CBS</b> Minneapolis, MN	<b>Janet Jones vs. Charter Hospitals</b> Santa Ana, CA
<b>Carter vs. Western Commerce Bancshares of Carlsbad, Inc.</b> Las Cruces, NM	<b>DiscoVision Associates vs. Disc Manufacturing Inc.</b> Wilmington, DL
<b>Qwest adv. OSP</b> Phoenix, AZ	<b>Turec vs. General Motors</b> Portland, OR
<b>DeGroot vs. Western Commerce Bank</b> Carlsbad, New Mexico	<b>Everest Capital, Inc. vs. Everest Funds Management, LLC</b> Omaha, NE