

HOW TO INTRODUCE AND EXCLUDE COMPUTER EVIDENCE

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# HOW TO INTRODUCE AND EXCLUDE COMPUTER EVIDENCE

by Fred Hagans

## Introduction and Scope

This outline considers the nature of computer records, the proper foundation for their admission (both in Texas and in the Federal system), objections which may be presented, and a reliable method to ensure the admissibility of computer records. This outline will also consider the use of a computer to formulate evidence.

The written word has historically been accorded great significance. We rely on the written word as a permanent and binding form of communication. Businesses record their transactions in written form and rely on these records in forming policy and making decisions. Business records have evolved from those records created by pen and ink to records created by the typewriter and calculator and now to records created by computer.

As computers rapidly become common in business record-making, the law has had to adapt its rules of evidence. Today, more often than ever before, the records which an attorney wants to admit into evidence will be computer-generated.

## I. AN OVERVIEW OF COMPUTER RECORDS

### A. What are they?

1. Computer records are those records produced when information is fed into a computer. Information may be fed into a computer either manually or by a series of electronic impulses. The information is then stored in the computer's memory bank to be produced upon demand of the operator at any future time. The computer may receive information by means of punch cards, magnetic tape, paper tape or similar devices. Tapper, Evidence From Computers, 8 Ga. L. Rev. 562, 566 (1974). Each of these devices will transmit information in computer language, a language that is illegible to everyone but experts and which is generally useless as evidence. Computer information is stored either internally or in external devices such as

magnetic tapes, disks, drums or cards. Note, Appropriate Foundation Requirements for Admitting Computer Printouts into Evidence, 1977 Wash. U.L.Q. 59, 74. These devices, although detachable, have no evidentiary value in and of themselves. Output from these storage devices provides the records. While this output is often untranslated and thus unintelligible, the computer can translate it into a printed record generally known as a print-out which is easily read. These print-outs are almost always the records sought to be introduced. Id.; see also 1A Ray, Texas Practice, Law of Evidence, Section 1264.

2. Computer records are generally considered hearsay when they are offered into evidence to prove the truth of statements they contain. Smith, Evidence - Admissibility of Computer Business Records as an Exception to the Hearsay Rule, 48 N.C.L. Rev. 687, 689 (1970). The Texas Rules of Evidence and the Federal Rules of Evidence define hearsay as "a statement, other than one made by the declarant while testifying at the trial or hearing, offered in evidence to prove the truth of the matter asserted." Tex. R. Evid. 801(d) and Fed. R. Evid. 801(c). To have computer records admitted into evidence, an attorney must first identify an exception to the hearsay rule or find a non-hearsay use.

B. How do computer generated business records differ from conventional records?

1. While conventional records are created by humans and are kept in legible, tangible form, computer records exist in the computer itself, in the computer's own language, with no corporeal form whatsoever, until an operator gives the computer the appropriate command. Consequently, fewer people are familiar with computer records than with conventional records. Additionally, a computer print-out may be requested at any time; therefore, the print-out form may first appear long after the recorded event has occurred. Note, Appropriate Foundation Requirements for Admitting Computer Printouts into Evidence, 1977 Wash. U.L.Q. 59, 78.

2. While traditional record-keeping systems are cumulative, each new entry being added to prior entries, computer systems update their records by combining old records with new entries, sometimes destroying the old records thereby making it impossible to ascertain the previous state of a record. Reese, Admissibility of Computer-Kept Business Records, 55 Cornell L. Rev. 1033, 1035 (1970). In fact, several of the many uses of computers are to reorganize data, to manipulate that data to obtain certain desired results, and to summarize large amounts of data.
3. While conventional records are subject to human error (and human tampering), a fact the court should be aware of, computer records are open to error from a number of sources not commonly considered. These fall under the dual categories of "human error" (e.g., programming errors, operating mistakes, input errors) and "mechanical shortcomings" (e.g., environmentally induced errors, hardware failures). Comment, A Reconsideration of the Admissibility of Computer-Generated Evidence, 126 U. Pa. L. Rev. 425, 439-46 (1977).
4. While tampering with conventional records may be accomplished skillfully, tampering with computer records may be done without any trace whatsoever. Connery and Levy, Computer Evidence in Federal Courts, 84 Com. L.J. 266, 272 (1979). This knowledge and the wariness it provokes may account for the difficulties attorneys sometimes face in attempting to get computer records admitted into evidence.

C. What rules govern the admissibility of computer records?

1. The "Business Records" exception to the hearsay rule is the most commonly used exception for admission of computer business records. Prior to the adoption of the Federal Rules of Evidence in 1975, this exception in the federal system was found in 28 U.S.C.A. Section 1732(a). Before Texas adopted its Rules of Evidence in 1983 (modeled after the federal rules), this exception was codified in TEX. REV. CIV. STAT. ANN. art. 3737e. Rule 803(6) of the Rules of Evidence in both Texas and the federal system now covers this exception.

2. Rule 1006 of the Texas and Federal Rules of Evidence allows summaries to be introduced into evidence. Computer summaries have been held to be admissible under this rule.
3. The Public Records exception to the hearsay rule has also been applied to computer records. This exception, both Texas and Federal, is found in 803(8) of the Rules of Evidence.

## II. LAYING A PROPER FOUNDATION FOR ADMITTING COMPUTER RECORDS IN TEXAS

### A. The Business Records Exception

1. Admission of computer records under 803(6) (or 3737e, the language of which is almost identical) requires:
  - a. The records must be made in the regular course of business;
  - b. It was the regular course of that business for an employee or representative of such business with general knowledge of such act, event or condition, to make such memorandum or record or to transmit information thereof to be included in such memorandum or record; and
  - c. It was made at or near the time of the act, event or condition or reasonably soon thereafter. Longoria v. Greyhound Lines, Inc., 699 S.W.2d 298 (Tex. App.--San Antonio 1985, no writ); accord McAllen State Bank v. Linbeck Construction Corp., 695 S.W.2d 10 (Tex. App.--Corpus Christi 1985, writ ref'd n.r.e.); Hutchinson v. State, 642 S.W.2d 537 (Tex. App.--Waco 1982, no writ) and Wenk v. City National Bank, 613 S.W.2d 345 (Tex. Civ. App.--Tyler 1981, no writ).
2. An attorney seeking to introduce such evidence must do so through "the testimony of the custodian of records or other qualified witness." Fed. R. Evid. 803(6). The following persons have been held to be "qualified witnesses":

- a. Comptroller of company held qualified to testify. Texas Warehouse Co. of Dallas, Inc. v. Springs Mills, Inc., 511 S.W.2d 735 (Tex. Civ. App.--Waco 1974, writ ref'd n.r.e.).
  - b. Assistant vice-president of bank held qualified. Wenk, supra.
  - c. Division office service manager held qualified. Hill v. State, 644 S.W.2d 849 (Tex. App.--Amarillo 1982, no writ).
  - d. Chief accountant held qualified. McAllen, supra.
  - e. One who has records in "care, custody and control" is a custodian qualified to testify. Plante v. State, 674 S.W.2d 368 (Tex.App.--Dallas 1984) reversed on other grounds 692 S.W.2d 487 (Tex. Crim. App. 1985).
3. Early Texas cases imposed strict requirements for the admission of computer records.
- a. In Kamen & Co. v. Young, 466 S.W.2d 381 (Tex. Civ. App.--Dallas 1971, writ ref'd n.r.e.), Young sued Kamen & Co. to recover commissions he had earned while working for the company. The company attempted to introduce computer print-outs of a customer's account, with Mr. Kamen himself testifying as to the identity and making of the records. The records were held inadmissible because Kamen had not proven "personal knowledge" on the part of the person putting information into the computer, even though that was not a requirement under TEX. REV. CIV. STAT. ANN. art. 3737e.
  - b. In Railroad Commission v. Southern Pacific Co., 468 S.W.2d 125 (Tex. Civ. App.--Austin 1971, writ ref'd n.r.e.), computer records of the Railroad Commission were held inadmissible. The court stated:

. . . the ultimate proof to be established under Article 3737e should be accompanied,



in the case of electronic records, by proof that the particular computing equipment is recognized as standard equipment, that the records kept and stored electronically were made in the regular course of business, that they were based on information within the personal knowledge of a person whose duties included the collection of such information, and that the records were prepared by persons who understood the operation of the equipment and whose regular duty it was to operate it.

Railroad Commission, 468 S.W.2d at 129. Although the Supreme Court refused the writ, it specifically pointed out that it was not passing upon the admissibility of the electronically kept business records. Southern Pacific Co. v. Railroad Commission, 471 S.W.2d 39 (Tex. 1971).

4. As computer records have become more common, the majority of Texas courts have ruled that no additional requirements other than those imposed by the Business Records exception are necessary to admit computer records into evidence.
  - a. In Baylor University Medical Center v. Travelers Insurance Co., 587 S.W.2d 501 (Tex. Civ. App.--Dallas 1979, writ ref'd n.r.e.), the court observed that the Supreme Court "declined to sanction an enlargement of statutory predicate for computer stored records."
  - b. In Voss v. Southwestern Bell Telephone Co., 610 S.W.2d 537 (Tex. Civ. App.--Houston [1st Dist.] 1980, writ ref'd n.r.e.), the court noted that "[t]he legislature did not see any necessity for additional requirements where the records sought to be introduced into evidence were electronically produced" and held "[o]nce the requirements as

above set out are met, the records are admissible and are to be given whatever weight they are entitled to". Accord Wenk and Hutchinson, supra.

- c. "The factors enunciated by the Austin court in Railroad Commission v. Southern Pacific Co. go only to weight and not to the admissibility of computer evidence." Longoria, 699 S.W.2d at 302.
5. Caveat: Some courts, however, have excluded computer records based on the additional requirements outlined in Railroad Commission v. Southern Pacific Co., supra.
- a. O'Shea v. International Business Machines, 578 S.W.2d 844 (Tex. Civ. App.--Houston [1st Dist.] 1979, writ ref'd n.r.e.), looks to Railroad Commission for the standard by which to admit ordinary computer records. This court held that computer business records were inadmissible because the record was silent concerning any additional requirements.
  - b. Williams v. State, 629 S.W.2d 791 (Tex. App.--Dallas 1981, no writ), found computer records inadmissible because the state had not shown the general accuracy of the computer or that the computer was operating properly on the date of the offense.
  - c. Although the vast majority of cases hold that no additional requirements are necessary, an attorney should be aware that several recent cases have continued to use the Railroad Commission case to impose a more strict standard of admission for computer records.
6. Rule 1006 -- Summaries
- a. "A summary of business records may be admitted into evidence upon proof . . . (1) that the records are voluminous, (2) they have been made available to the opponent for a reasonable period of time to afford inspection and an opportunity for cross-examination, and (3) the

supporting documents are themselves admissible in evidence." Duncan Development, Inc. v. Haney, 634 S.W.2d 811, 812-13 (Tex. 1982).

- b. "A summary is not rendered inadmissible, where based upon competent evidence, when such a summary is prepared by a computer." Texas Warehouse, 511 S.W.2d at 743.
- c. A summary is no more admissible than the underlying records. Accordingly, the admissibility of the underlying records must be established. A proper predicate must be laid for the admission of such records as business records. Black Lake Pipe Line Co. v. Union Construction Co., Inc., 538 S.W.2d 80, 192 (Tex. 1976); Cooper Petroleum Co. v. La Gloria Oil & Gas Co., 436 S.W.2d 889 (Tex. 1969); Hanson Southwest Corp. v. Dal-Mac Const. Co., 554 S.W.2d 712, 722 (Tex. Civ. App.-- Dallas 1977 writ ref'd n.r.e.).
- d. A computer summary may also be a business record, in which case it would be admissible under the Business Records exception without laying the foundation for admissibility as a summary. McAllen, 695 S.W. 2d at 16.
- e. If a print-out is an exact transcript of handwritten notes, it is not a summary, Hodges v. Peden, 634 S.W.2d 8 (Tex. App.--Houston [14th Dist.] 1982, no writ); however, if any information is lost in the process, the print-out becomes a summary, subject to the attendant requirements for admission. Nelson, The Impact of Computers on the Legal Profession, 30 Baylor L. Rev. 829, 839 (1978).

### III. ADMISSION OF COMPUTER-GENERATED RECORDS IN FEDERAL COURT

- A. Attorneys in the federal system utilize a variety of rules in attempting to admit computer records into evidence.

1. The Business Records Exception, Fed. R. Evid. 803(6), reads precisely the same as the Texas rule and carries with it the same requirements, i.e., that the records were made or transmitted by a person with knowledge at or near the time of the incident recorded and that the record is kept in the course of regularly conducted business activities. U.S. v. Miller, 771 F.2d 1219, 1237 (9th Cir. 1985). In federal courts, as in Texas courts, the Business Records Exception is the most common method used to permit computer records. Jurisdictions may vary as to whether the requirements of 803(6) are the only requirements for admission of computer business records.

- a. U.S. v. Russo, 480 F.2d 1228, 1241 (6th Cir. 1973), U.S. cert. denied, 94 S.Ct. 915, 414 U.S. 1157 (1974), adds the requirement that "the court 'be satisfied with all reasonable certainty that both the machine and those who supply its information have performed their functions with utmost accuracy'".
- b. U.S. v. Scholle, 553 F.2d 1109, 1125 (8th Cir. 1977), U.S. cert. denied, 98 S.Ct. 432, 434 U.S. 940, 54 L.Ed. 2d 300 (1977):

The complex nature of computer storage calls for a more comprehensive foundation. Assuming properly functioning equipment is used, there must be not only a showing that the requirements of the Business Records Act have been satisfied, but in addition the original source of the computer program must be delineated, and the procedures for input control including tests used to assure accuracy and reliability must be presented.

- c. U.S. v. Miller, 771 F.2d 1219, 1237 (9th Cir. 1985) held that computer records were admissible under Rule 803(6) by the rule's standard's alone; the custodian need be familiar only with the methods

by which the computer system records information, not with the information itself.

- d. U.S. v. Liebert, 519 F.2d 542, 547 (3rd Cir. 1975), U.S. cert. denied, 96 S.Ct. 392, 423 U.S. 985, 46 L.Ed. 2d 301 (1975): "A party seeking to impeach the reliability of computer evidence should have sufficient opportunity to ascertain by pretrial discovery whether both the machine and those who supply it with data input and information have performed their tasks accurately."
  - e. D & H Auto Parts v. Ford Marketing Corp., 57 F.R.D. 548, 551 (E.D. N.Y. 1973) held once the requirements of the Business Records Exception were met, computer print-outs were inadmissible in that case, and any extra qualifying testimony would go to weight, not admissibility.
- 2. Rule 803(8), the Public Records and Reports exception, was held to apply to computer records in U.S. v. Orozco, 590 F.2d 789 (9th Cir. 1979) cert. denied, 99 S.Ct. 2845, 439 U.S. 1049 (1979). In Orozco, the public records in question were computer data cards from the Treasury Enforcement Communications System which recorded the cars crossing the Mexican border. The cards were admitted into evidence because the information was found to be trustworthy.
  - 3. Rule 803(7), the hearsay exception dealing with the absence of entry in business records, permitted the admission of computer records in U.S. v. DeGeorgia, 420 F.2d 889 (9th Cir. 1969). The court found that "if a business record designed to note every transaction of a particular kind contains no notation of such a transaction between specified dates, no such transaction occurred between those dates." Id. at 893.
  - 4. Rule 803(10) provides that the absence of a record of an event in a public record, if properly certified, is admissible as an exception to the hearsay rule. This rule was used in U.S. v. Cepeda-Penes, 577 F.2d 754

(1st Cir. 1978), in which certified computer print-outs which were used to prove that the defendant did not file tax returns were found admissible under 803(10). See also U.S. v. Farris, 517 F.2d 226 (7th Cir. 1975), cert denied, 96 S.Ct. 189, 423 U.S. 892 (1975).

5. Computer records were held admissible as summaries in U.S. v. Smyth, 556 F.2d 1179 (5th Cir. 1977), U.S. cert. denied, 98 S.Ct. 190, 434 U.S. 862, 54 L.Ed. 2d 135 (1977). Applying Rule 1006, the court points out that summaries of voluminous records are admissible if the underlying documents are made available to opposing counsel for cross-examination purposes. The summary is then admissible as evidence, regardless of whether the underlying documents are admitted. Id. at 1184.
6. In U.S. v. Mouzin, 785 F.2d 682 (9th Cir. 1986), U.S. app. pending, an attempt was made to introduce computer records under Rule 801(d)(2)(E). This rule states that a statement is not hearsay if it is made "by a coconspirator [sic] of a party during the course and in furtherance of the conspiracy." Fed. R. Evid. 801(d)(2)(E). The records were held inadmissible, but only due to a lack of proof on the part of the government.

B. The 5th Circuit Approach

1. The 5th Circuit has been consistent in deciding the admissibility of computer-generated business records under Rule 803(6). Time and again it has held "computer business records are admissible if (1) they are kept pursuant to a routine procedure designed to assure their accuracy, (2) they are created for motives that tend to assure accuracy (e.g., not including those prepared for litigation) and (3) they are not themselves mere accumulations of hearsay." Capital Marine Supply, Inc. v. Thomas, 719 F.2d 104, 106 (5th Cir. 1983); accord U.S. v. Sanders, 749 F.2d 195, 198 (5th Cir. 1984) and Rosenburg v. Collins, 624 F.2d 659 (5th Cir. 1980).
2. No additional requirements are necessary to admit computer records other than those found in Rule 803(6). "Computer evidence should be

treated as any other record of regularly conducted activity . . . (and) is not intrinsically unreliable." U.S. v. Vela, 673 F.2d 86, 90 (5th Cir. 1982).

3. "Any person in a position to attest to the authenticity of certain records is competent to lay the foundation for the admissibility of the records; he need not have been the preparer of the record, nor must he personally attest to the accuracy of the information contained in the records." U.S. v. Young Brothers, Inc., 728 F.2d 682, 694 (5th Cir. 1984), U.S. cert. denied, 105 S.Ct. 246, 469 U.S. 881, 83 L.Ed. 2d 184 (1984) citing Rosenberg, 624 F.2d at 665.
4. The 5th Circuit, like Texas, treats computer-generated records as business records and adds no additional requirements because of their electronic origin.
5. See also Peritz, Computer Data and Reliability: A Call for Authentication of Business Records Under the Federal Rules of Evidence, 80 NW.U.L.Rev. 956 (1986), which argues for a more comprehensive foundation for qualifying business records stored and maintained by computers, as advocated in the Manual for Complex Litigation (5th Ed. 1982).

#### IV. COMMON OBJECTIONS -- SUCCESSFUL AND UNSUCCESSFUL

- A. To be effective, an objection to the admission of computer records must be specific. A general objection is insufficient. See Connery and Levy, Computer Evidence in Federal Courts, 84 Com. L.J. 266, 270 (1979).
1. "No proper foundation" is too broad and general an objection. Plyler v. City of Pearland, 489 S.W.2d 459, 461 (Tex. Civ. App.--Houston [1st Dist.] 1972, writ ref'd n.r.e.).
2. "No proper predicate" is not particular enough to preserve error. Baylor University Medical Center v. Traveler's Insurance Co., 587 S.W.2d 501 (Tex. Civ. App.--Dallas 1979, writ ref'd n.r.e.).

3. Even if computer records are otherwise objectionable, they will not be excluded and the case will not be reversed in the absence of a specific objection. U.S. v. Dioguardi, 428 F.2d 1033 (2nd Cir. 1970), cert. denied, 95 S.Ct. 134, 400 U.S. 825 (1974); accord Olympic Insurance Co. v. Harrison, Inc., 418 F.2d 669 (5th Cir. 1969) and U.S. v. Fendley, 522 F.2d 181 (5th Cir. 1975) (government did not lay a proper predicate for the admission of records; however, the appellate court refused to reverse because defense counsel made no specific objection).

B. Even specific objections have been held insufficient to deny the admission of computer records.

1. In Hill v. State, 644 S.W.2d 849, 853 (Tex. App.--Amarillo 1982, no writ), the records in question were telephone calls created mechanically, not by a person. Defense counsel objected to admission of the records on that basis. The court held "to hold records such as this inadmissible simply because the original entry was made mechanically instead of by an individual would effectively emasculate the act and defeat its salutary purposes."
2. In Hodges v. Peden, 634 S.W.2d 8, 11 (Tex. App.--Houston [14th Dist.] 1982, no writ), the computer records were print-outs detailing a bankruptcy receiver's services. Appellant objected to this evidence on the basis that it was not the "best evidence" of the matters asserted therein. The court allowed the evidence, explaining that the inquiry should be, "Does the party whom you represent actually dispute the accuracy of the evidence received as to the material terms of the writing?" There was no such dispute and appellant had made no attempt to obtain the underlying records in question. Therefore, the computer records were properly admitted.
3. In U.S. v. Cepeda-Penes, supra, a criminal defendant challenged the admission of computer records on the basis that it would impair his right to cross-examination and was



therefore hearsay. The court admitted as much, yet admitted the evidence as an exception to the hearsay rule.

4. In U.S. v. Young Brothers, supra, an objection was made that computer business records are "double hearsay", asserting that they are less reliable than other kinds of business records because they depend upon the accuracy of the software as well as the person feeding the raw data into the computer. Id. at 693. Again, the 5th Circuit admitted the evidence and held that the records, although hearsay, were an exception to the hearsay rule.

C. These objections have been upheld:

1. In Williams v. State, supra, the court held computer records should not have been admitted because the state did not show the general accuracy of the computer or that the computer was operating properly on the day of the offense. Id. at 794. The appellate court agreed on the basis of Railroad Commission v. Southern Pacific, supra. Although many courts in Texas have specifically eschewed the additional requirements to admission propounded by that case, occasionally a court has upheld objections based on these requirements. See Gassett v. State, 532 S.W.2d 328 (Tex. Crim. App.--1976); O'Shea v. International Business Machines, supra.
2. Several courts have ruled that the party who intends to use computer evidence must make the details of the operation of the computer available a reasonable time before trial. See U.S. v. Dioguardi, U.S. v. DeGeorgia, and U.S. v. Russo, supra.
3. A common and occasionally successful objection has been made as to the person testifying to the computer records. In Kamen & Co. v. Young, supra, the principal partner of the corporation, Kamen, was held not to be a "qualified person" to testify to the records. Although he testified about the identity of the persons who input the information reflected in the records, he himself knew nothing of the information, and his lack of knowledge disqualified him. Hackney v. State, 634 S.W.2d 337 (Tex. App.--Beaumont

1982, no writ), involves a would-be witness who was held unqualified to testify. In Hackney, however, the ruling made more sense because the witness operated a computer which was linked to the Texas Department of Public Safety's computer in Austin. The operator was in no position to personally testify as to the business practices of the DPS.

Caveat: Many have tried to disqualify a testifying witness, but very few have succeeded. See Longoria; Plante; Miller; and Verlin, supra.

## V. COVERING ALL THE BASES

### A. Pre-Trial Preparation

1. During discovery, the attorney must ask opposing counsel the correct questions in order to elicit the information he will need to answer any challenges to the computer information. This includes questions regarding:
    - a. The exact version and release of the software used to create the information;
    - b. The exact configuration of the computer hardware on which the information was created, including the memory size;
    - c. The exact name, release and version of the operating system used on the hardware;
    - d. Any other software, hardware, or information such as passwords or user supplied files that is required or desirable in order to examine and use information contained on floppy disks.
- National Law Journal, April 6, 1987, at 15, col. 3-4.
2. Identify each print-out you wish to use; consider what witness will sponsor it and any objections that might arise.
  3. Seek a stipulation from your adversary that the print-outs are admissible. If this is feasible, it could save time and trouble.

4. If the stipulation is not feasible, consider seeking a pre-trial hearing on admissibility. This will save your time as well as the jury's time.

B. Identification and Authentication

1. Have the print-out identified by a witness. This witness must state what the evidence is with sufficient particularity so that it is distinguishable from all other evidence. In the case of computer records, the creator or custodian of the print-out is the logical choice for a witness.
2. Although Texas and 5th Circuit courts usually do not require the proponent of computer records to present extensive testimony as to the computer's reliability, other jurisdictions and some Texas and 5th Circuit courts have required it. The safest procedure is to supply testimony as to the accuracy and reliability of the computer and the methods by which the print-out is prepared. The witness should identify the hardware and software and testify to a system for assuring accuracy of results. Any and all security measures taken to protect the information stored in the computer should be described in detail, if for no other reason than to alleviate the mystery which often surrounds computer workings.
3. Checklist for the "maximum" foundation:
  - a. The equipment used is standard and reliable;
  - b. The program is standard and reliable;
  - c. The data is stored securely and protected from loss or alteration; and
  - d. The print-out is an accurate representation of the data stored in memory.

C. The Business Records Exception -- For the quick and certain method, be prepared to prove:

1. the data reflected on the print-out was entered into computer memory by a person with knowledge of the event recorded or from information supplied by a person with knowledge;
2. the data entry was made at or reasonably near the time the event occurred;
3. the data entry occurred in the regular course of business;
4. it was the regular practice of that business to make the data entry;
5. the data was input pursuant to a routine procedure designed to ensure accuracy;
6. the data entry was made for motives that tend to assure accuracy;
7. the record was not made for purposes of litigation; and
8. the entries do not themselves contain hearsay.

#### VI. THE COMPUTER AS THE ATTORNEY'S TOOL

- A. Types of Evidence - In addition to utilizing computer-generated business records as evidence, attorneys can make use of computers in a number of other ways to prove and/or demonstrate a contention in trial.
  1. Summaries: As earlier discussed, computer summaries can help an attorney reduce voluminous materials into a workable size for the jury. Capital Marine Supply, Inc. v. Thomas, 719 F.2d 104 (5th Cir. 1983).
  2. Models: An attorney may have an expert produce a computer graphic on a monitor which represents a model of the item in question. This model can be rotated on an axis to provide the jury with a view from all sides. The witness can also show a section or cut-away view of part of the model. This procedure may be valuable when the "trier of fact must render a decision that cannot be properly rendered without specific knowledge

of how some highly complex system or entity functions . . . ." Sprowl, Evaluating the Credibility of Computer-Generated Evidence, 52 Chi-Kent L.Rev. 547, 562 (1976).

3. Reconstructions: Reconstructions can be used to support an opinion as to the cause of an automobile crash. This is accomplished by using a program which takes into account the observed characteristics of the accident. By means of high-speed trial and error, the computer can determine what impact speed yields a reconstruction that is most consistent with the physical evidence. Additionally, by using the engineering specifications of a device (e.g., a crane), the computer can construct a model of that device and perform tests to determine the cause of its failure. Pozin, Computer Evidence - Part II: Sophisticated Models and In-Court Demonstrations, Spring 1986 Practice Tips 43.
4. Charts and Calculations: Many businesses rely on computers to perform calculations on data. These calculations, as well as charts which a computer might generate, are admissible under Fed. R. Evid. 1006.

B. Requirements for Admission

1. Standards: Three possible standards are available to a judge in determining the admissibility of computer-generated evidence, as follows:
  - a. The common law approach to demonstrative evidence, whereby the judge would consider the relevance of the evidence as well as its explanatory value, if any;
  - b. The standard enunciated in Fry v. United States, 293 F. 1013 (D.C. Cir. 1923), involving the general acceptance in the relevant scientific community of that sort of evidence. This is the hardest standard to meet in the case of computer simulations.

- c. The relevancy/balancing approach as suggested by Federal Rules of Evidence 401-403, whereby the relevant evidence is admissible provided its probative value is not outweighed by prejudice, potential to mislead the jury or consumption of time. Note, Computer Simulations: How They can be Used at Trial and the Arguments for Admissibility, 19 Ind.L.Rev. 735, 741 (1986).
2. Authentication: As with other types of computer-generated information, the first step in preparing an adequate foundation is to meet the authentication standards of Fed. R. Evid. 901. Rule 901 prescribes how computer evidence may be authenticated. The rule states:
- By way of illustration only, and not by way of limitation, the following are examples of authentication or identification conforming with the requirements of the rule . . . (9) Process or system. Evidence describing a process or system used to produce a result and showing that the process or system produces an accurate result.
- Fed. R. Evid. 901(b)(9). This authentication is usually performed by an expert or other qualified witness.
3. The Requirement of Notice and Availability of Program
- a. Proponent must give advance notice of his intent to use computer-generated evidence. Comment, Guidelines For the Admissibility of Evidence Generated By Computer For Purposes of Litigation, 15 U.Cal., Davis L.J. 951, 961 (1982).
- b. Before trial, the litigator must make available to opposing counsel the details of the computer program that was used to generate the evidence. "Computer inputs and outputs, underlying data and program method employed should be made available to opposing party in advance of trial as a condition to

admissibility." Federal Manual for Complex Litigation, Section 2.714. "[A] litigant who intends to introduce the computerized data or expert opinions predicated thereon [must] furnish his adversary with program methods utilized, as well as underlying data, inputs and outputs, well in advance of trial . . . ." City of Cleveland v. Cleveland Electric Illuminating Co., 538 F.Supp. 1257, 1267 (N.D. Ohio 1980). See also Perma Research & Development v. Singer Co., 542 F.2d 111 (2nd Cir. 1976), 97 S.Ct. 507, 429 U.S. 987, 50 L.Ed. 598 (1976).

4. Responses to Hearsay Objections: An attorney using a computer simulation at trial should anticipate a hearsay objection and prepare accordingly. Strategies the attorney might use are:
  - a. Denominating the computer simulation as demonstrative evidence illustrative of the expert's testimony and thus not offered to prove the truth of the matter asserted.
  - b. Arguing that the computer simulations are analogous to hypothetical questions in that they are made up of a combination of assumed or proven facts and circumstances, stated such that they institute a coherent and specific situation upon which the opinion of an expert is asked. Id. at 756, 757.

#### CONCLUSION

The computer has proven to be a useful tool for both the business and legal communities. A modern attorney should be prepared not only to make use of the computer records produced by businesses, but also to use the computer in his own practice to produce persuasive evidence. He should be prepared to defend his introduction of computer evidence against all objections and to attack computer evidence produced by opposing counsel. A working knowledge of the computer, the evidence it can produce, the evidentiary questions raised and the judicial decisions on the subject to date may prove invaluable for an attorney in today's rapidly changing and increasingly mechanized society.

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