

SOUND RECORDINGS AS EVIDENCE IN COURT PROCEEDINGS

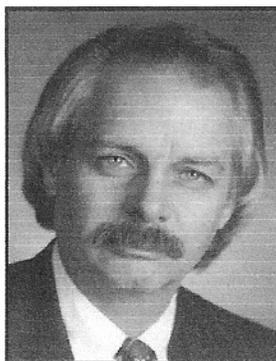
BY STEVE CAIN

INTRODUCTION

FEDERAL RULE OF EVIDENCE 901(A) PROVIDES in general terms that the requirement of authentication or identification as a condition precedent to the admissibility of evidence is satisfied by proffered proof sufficient to support a finding that the matter in question is what its proponent claims it to be. A foundation for authentication of sound recordings was established in the federal courts in *United States v. McKeever*,<sup>1</sup> and upheld in cases such as *United States v. McMillan*.<sup>2</sup> In *McMillan* the court ruled that where a government agent testified that he heard the voice of an informant at all times when he was making a recording of a telephone conversation, that this part of the conversation was accurate, and that immediately after the telephone calls were completed, a tape was replayed by the agent in the informant's presence to verify that the conversation had in fact been recorded and that the instruments were operating correctly, it was sufficiently established that the recordings were true and accurate as a

In *United States v. Kandiel*,<sup>3</sup> the court ruled that any question concerning the credibility of a witness who identifies Voices on a tape recording admitted into evidence simply goes to the weight which the jury accords the evidence, not its admissibility. Referring to *McMillan* the court said:

Applying [the *McMillan* case], we conclude that the government laid a proper foundation for introduction of the two cassette tapes into evidence. The tapes were found at appellant's home. Ahmed Kandiel [defendant's brother] testified that the tapes were made in Egypt and sent to appellant by their mother and father while Ahmed was living with appellant. The contents of the tape recordings have numerous references to people, places and activities that were corroborative of other testimony in the record. We believe the government has offered sufficient circumstantial evidence to establish the prima facie authenticity and correctness of the tapes. Furthermore we find that the government sufficiently established the identity of the speakers through the testimony of Ahmed Kandiel. Appellant's argument that Ahmed's credibility was suspect and that therefore his



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testimony was insufficient to establish foundation for the admission of the tapes is without merit. Identification of a voice, whether heard firsthand or through mechanical or electronic transmission or recording, may be made "by opinion based upon hearing the voice at any time under circumstances connecting it with the alleged speaker." Fed. R. Evid. 901(b)(5). Any question concerning the credibility of the identifying witness simply goes to the weight the jury accords this evidence, not to its admissibility. *United States v. Kirk* 534 F.2d 1262, 1277 (8th Cir. 1976), cert. denied, 433 U.S. 907, 97 S. Ct. 2971, 53 L. Ed. 2d 1091 (1977). Our review of the record convinces us that the district court did not abuse its discretion in finding that proper foundation was laid for admitting the tapes. See *United*

The cases are, therefore, now in general agreement as to what constitutes a proper foundation for the admission of a sound recording and indicate a reasonably strict adherence to the rules prescribed for testing admissibility of recordings, as set forth in *McMillan*.<sup>s</sup> These rules can be summarized as follows:

- The recording device must have been capable of taking the conversation now offered in evidence  
The operator of the device must be competent to operate the device  
The recording must be authentic and correct  
Changes, additions or deletions have not been made in the recording
- The recording must have been preserved in a manner that is shown to the court  
The speakers must be identified  
The conversation elicited was made voluntarily and in good faith, without any kind of inducement.<sup>6</sup>

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## SOUND RECORDINGS

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### THE BASIC PROCESS

OVER THE PAST 35 YEARS, ATTORNEYS HAVE UTILIZED THE basic process set forth in *McMillan* to create cases for admission of tapes or, on the opposition side, to deny admission of tape evidence. This process involves the following elements:

Capability of the recording device: this first requisite may be fulfilled simply. The very existence of the tape recording proves that the recording device was functioning and capable of duplicating sounds.'

Competency of the operator today most people know how to operate a tape recorder so this step is almost automatic. In *United States v. McGowan*,<sup>8</sup> the agent merely testified that he learned how to use the recorder on the day he made the tapes.

The fact that he successfully made the recordings satisfied the competency requirement.

Authenticity and correctness of the recording: authentication is satisfied by evidence sufficient to support a finding that the matter in question is "what its proponent claims,"<sup>9</sup> as decreed in Federal Rule of Evidence 901. The standard for correctness of a recording is whether the possibility of misidentification and adulteration [is] eliminated, not absolutely, but as a matter of reasonable probability."<sup>10</sup>

Preservation of the recording with no additions, deletions or changes: an aural overview of the tape allows the court to hear signs (*i.e.*, gaps) which might indicate tampering. If there exists signs of tampering, a forensic expert is often consulted. If there are no signs of tampering, a proper chain of custody documentation may suffice."

Chain of custody: this fifth step has created stumbling blocks for proponents of admissibility. The proponent for the tapes admittance can assure the court that the item offered as evidence is substantially the same as it was originally by documenting its "chain of custody." A proper chain of custody begins with consecutively numbered and dated tapes. Careful logs are then kept which note the time of particular conversations and the locations on the tapes at the time of occurrence. These evidence tapes are sealed and stored in separate envelopes and appropriate chain of custody records are maintained by the evidence custodian.<sup>12</sup>

Identification of the speakers: Federal Rule of Evidence 901(b)(5) states that: "Voice identification is adequate if made by a witness having sufficient familiarity with the

speaker's voice." The rule goes on to clarify that familiarity may be obtained previous to or after listening to the recorded voice. This standard for voice identification has been upheld in cases such as *United States v. Rizzo*, *United States v. Bonanno*, and *United States v. Hughes*.<sup>13</sup>

Voluntary elicitation of the recorded conversation: as long as one participant in the conversation is aware that he is being recorded, the tape fulfills this final requirement. This means that a defendant's Fourth Amendment rights are not violated when the conversation is electronically monitored by a government agent with consent of the government informant in the investigation.<sup>14</sup>

### ADMISSIBILITY OF INAUDIBLE SOUND RECORDINGS

IT IS A GENERAL RULE THAT A sound recording is admissible unless the inaudible portions or omissions are so substantial as to render the recording as a whole untrustworthy as evidence." It has further been established that the question of

admissibility of audible portions of tape recordings, when certain portions were inaudible, was properly addressed to the discretion of the trial court.

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### RECENT COURT RULINGS

THE HISTORICAL PROCESS SET OUT ABOVE, AS FIRST established in *United States v. McMillan*, is widely used today even though several recent court decisions provide more relaxed rulings on admissibility. For example, in *United States v. Traficant*,<sup>17</sup> the court stated that: "Recent cases have developed more flexible standards for the admission of tape recorded conversations. The most important criterion for admission is that the tapes accurately reflect the conversation which they purport to record. . . . This evidence may be circumstantial or direct, real or testimonial, and need not conform to any particular mode." Therefore, according to the more liberal admission rulings, a tape recording may be admitted into evidence if a proper chain of custody is proven. Or, if the chain is not strong enough, the proponent of the tape may submit it to a qualified forensic expert for authentication. In *United States v. King*,<sup>18</sup> the United States Court of Appeals for the Ninth Circuit characterized the elements of the process as "useful, but not dispositive guidelines for determining when a proper foundation for the introduction of sound recordings has been made." The Ninth Circuit said that the trial court, in the exercise of its discretion, must be satisfied that the recording is accurate, authentic and generally trustworthy.

## EXAMINATION REQUESTS AND REQUIRED EQUIPMENT

WHEN AN AUDIO TAPE IS SUSPECTED OF HAVING BEEN TAMPERED WITH, it may be forwarded to a qualified forensic audio specialist for authentication. Prosecutors often request investigation of deficiencies in the previously mentioned process. Examples of such problems are:

- Credibility questions relating to the tape recorder operator

Chain-of-custody contradictions

Differences between the content of the tape and testimony of what was said.

Most often, however, a forensic expert is contacted when the tape is believed to have been altered or tampered with. Due to the nature of the allegations surrounding tampering issues, the examiner will require specific items from the party.

The Federal Bureau of Investigation, for example, has a protocol of required information, including:

- The original tape
- The tape recorders and related components used to

- Written records of any damage or maintenance done to the recorders, accessories and other submitted equipment
- A detailed statement from the person or persons who made the recording, describing exactly how it was produced and the conditions that existed at the time, such as:
  1. Power source, including a portable generator or drycell batteries
  2. Input, such as telephone, radio frequency transmitter/receiver, miniature microphone, etc.
  3. Environment, such as telephone transmission line, restaurant, apartment, street, etc.
  4. Background noises, such as television, radio, unrelated conversations, computer games, etc.
  5. Foreground information, such as number of individuals involved in the conversation, general topics of discussion, closeness to microphone, etc.
  6. Magnetic tape, such as brand, format, when purchased, whether previously used
  7. Recorder operation, such as number of times turned on and off in the record mode, type of keyboard or

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remote operations for all known recorded events, use of voice-activated features, etc.

- A typed transcript of the entire recording or, if that is not available transcriptions of the portions in question.

The items listed above are examples of what is required by a forensic expert as she begins an examination of questioned audio recordings.

### TECHNICAL DEFINITIONS

CERTAIN TECHNICAL DEFINITIONS SHOULD BE UNDERSTOOD by prosecutors and others in considering the technical process of examining sound recordings. They include the ones listed below.

#### FALSIFICATION OF TAPES

A QUALIFIED FORENSIC EXPERT DETERMINES AUTHENTICATION by performing a number of scientific tests which detect evidence of tampering or falsification. The four basic types of tampering are these:

- Deletion: the elimination of words or sounds by stopping the tape and over-recording unwanted areas
- Obscuration: the mixing in of sounds of amplitude sufficient to mask waveform patterns which originally would show stops and starts in inappropriate places
- Transformation: the rearranging of words to change content or context
- Synthesis: the adding of words or sounds by artificial means or impersonation.

#### ELECTROMECHANICAL INDICATIONS OF FALSIFICATION

THESE ARE SOMETIMES REFERRED TO AS "ANOMALIES" AND include the following:

- Gaps: segments in a recording which represent unexplained changes in content or context (a gap can contain buzzing, humming or silence)
- Transients: short, abrupt sounds exemplified by clicks, pops, etc. (transients may indicate tape splicing)
- Fades: gradual loss of volume (fades can cause inaudibility and are considered gaps when the recording becomes fully inaudible)
- Equipment sounds: inconsistencies of context caused by the recording equipment itself (common equipment sounds include hums, static, whistles, and varying pitches)

Extraneous voices: background voices which at times appear to be as near as the primary voices (these can, at times, even block the primary voices).

### DETECTING FALSIFICATIONS

A FORENSIC EXPERT IS TRAINED to detect falsifications and to authenticate sound recordings. The expert correlates his observations of anomalies with machine functions to interpret events in the following ways.

- Critical listening: this

involves the use of human analytical capabilities to locate anomalies. The forensic expert listens with proper headphones to the original tape using high-quality analytical equipment. He first performs a preliminary overview of the original tape and notes events, including starts, stops, speed fluctuations, and other variations requiring further investigation. He then examines recorded events and categorizes them as environmental or non-environmental. After examining recorded events, the expert analyzes background sounds. He listens for abnormal changes, absences or the presence of environmental sound. The final phase of critical listening is an extensive audit of the foreground information. He concentrates on voices, conversations and other audible sounds. Here anomalies include sudden changes in a person's voice, abrupt unexplained topic change or strong foreground interruptions indicative of obscuration. The initial forensic process of critical listening provides foundation and direction for later intensive

Physical inspection: the forensic expert next inspects for tampering with thorough visual inspection of the tape itself. She inspects the housing for pry marks, welding, size, label and date, consistent with the alleged recording date. She also measures the tape and assures that the splicing of the magnetic tape to the leader is consistent with a normal manufacturing process. Any other splices are noted as possible alterations.

- Magnetic development: direct visual observation of the "developed" tape is conducted to find track widths, the type of recorder used and the presence or absence of residual speech signals.
- Spectrum analysis: specialized computer equipment and programs to produce a visual interpretation of a frequency-versus-amplitude and frequency-versus-amplitude-versus-time displays. This allows the expert to view the entire spectrum or to zoom in on an area of particular interest thereby helping to characterize the acoustic quality of anomalies and identify their source.

Waveform analysis: a computer generated display representing time-versus-amplitude of recorded sounds in graphic form.

measure signal return time, which reveals how long a recorder had been turned off. He can identify recordmode events, including the measurement of record-to-erase-head distance, determination of the spacing between gaps in multiple-gap erase heads and inspection of the signature shape and spacing of various record event signals.

- Recorder performance: various electrical and mechanical measurements of standard and modified recorders for use in finding possible origins of buzz sounds, hum, etc.

## CONCLUSION

IN ORDER TO SUBMIT SOUND RECORDINGS AS EVIDENCE IN court, a prosecutor or other attorney must establish that the tape is an authentic representation of the conversation it is said to record. The traditional method of establishing authenticity involves maintaining a chain of custody which logs all

persons, times and locations concerned in the creation of the tape. Then, the tape must be officially sealed and stored to complete a proper chain of custody. However, even if this procedure is strictly observed, there may still be challenges to the tape's authenticity.

The recording may contain inconsistencies suggestive of tampering. In such cases, a prosecutor may consult a qualified forensic examiner to inspect the tape. The examiner would initially listen critically for signs such as gaps, transients, fades, equipment sounds or extraneous voices which indicate tampering. Then she would utilize other methods like physical inspection, magnetic development, spectrum analysis and waveform analysis to discover anomalies.

It is relatively easy to change the content of a recording by deleting words or sections, by obscuring meaning with over-recorded sounds, or by transforming context through rearrangement of selected phrases or by adding additional words through synthesis. Nevertheless, falsifications normally leave detectable magnetic and waveform acoustic signatures which can lead to forensic individualization of the evidential recorders and tapes.

## ENDNOTES

- 1 United States v. McKeever, 169 E Supp. 426, 430 (S.D.N.Y. 1958), *rev'd on other g; rounds*, 271 E2d 669 (2d Cir. 1959).
- 2 United States v. McMillan., 508 E2d 101, 104 (8th Cir. 1974), *cen. denied* 421 U.S. 916 (1975); *see also* United States v. Kandiel, 865 E2d 967, 973-974 (8th Cir. 1988), *cen. denied* 487 U.S. 1210 (1988); *Todisco v. United States*, 298 E2d 208 (9th Cir. 1962).
- 3 United States v. Kandiel, 865 E2d 967, 973-974 (8th Cir. 1988), *cen. denied* 487 U.S. 1210 (1988).
- 4 *Kondiel*, 865 E2d at 974.
- 5 *McMillan*, 508 E2d at 104.
- 6 *Id* at 104.
- 7 United States v. Moss, 591 E2d 428,433 (8th Cir. 1979); United States v. McCowan, 706 E2d 863 (8th Cir. 1983).
- 8 *McCowan*, 706 E2d at 863.
- 9 Zenith Radio Corp. v. Matsushita Electrical Industries Co., 505 E Supp. 1190 (E.D. Pa. 1980). and Finance Co. of America
- 10 *Gass v. United States*, 416 E2d 767, 770 (D.C. Cir. 1969); *United States v. Haldeman*, 559 E2d 31 (D.c. Cir. 1976).
- 11 *United States v. Faurote*, 749 E2d 40 (7th Cir. 1984).
- 12 *United States v. Craig*, 573 E2d 455 (7th Cir. 1977), *cen.denied* 439 U.S. 820 (1978).
- 13 *United States v. Rizzo*, 492 E2d 443 (2d Cir. 1974), *cen. denied* 417 U.S. 944 (1974); *United States v. Bonanno*, 487 E2d 654 (2d Cir. 1973); *United States v. Hughes*, 658 E2d 317 (5<sup>th</sup> Cir. 1981).
- 14 *United States v. White*, 401 U.S. 745 (1971); *United States v. Bonanno*, 487 E2d 654 (2d Cir. 1973); *United States v. Bishton*, 463 E,2d 887 (D.C. Cir. 1972); *United States v. Quintana*, 457 E2d 874 (10th Cir. 1972), *cen. denied* 409 U.S. 877 (1972); *United States v. Holmes*, 452 E2d 249 (7th Cir. 1971), *cen. denied*, 405 U.S. 1016 (1972).
- 15 *United States v. West*, 948 E2d 1042 (6th Cir. 1991); *People v. Rogers*, 543 N.E.2d 300 (Ill. 1989); *State v. Rodriguez*, 583 N.E.2d 795 (Ind. 1972).
- 16 *United States v. Enright*, 579 E2d 980 (6th Cir. 1978); *United States v. Gordon*, 688 E2d 42 (8th Cir. 1982).
- 17 *United States v. Traficant*, 558 E Supp. 996, 1002 (N.D. Ohio, 1983).
- 18 *United States v. King*, 587 E2d 956, 961 (9th Cir. 1978).