



## Mandatory Forensic Expertise of Audio-Video Recordings When they are Disputed in a Criminal Case

Sandra Grădinaru<sup>1</sup>

**Abstract:** In the context of technological advancement and the increasing use of audio and audio-video recordings as evidence in criminal proceedings, in order to ensure the right to a fair and the defendant's right to defend itself, it is necessary to perform an a posteriori check of such evidence in the situation where its authenticity is disputed. A posteriori control of tapings used as evidence in criminal trials can be achieved only by an expert, which represents a legal means of evidence of great importance and consists in the conduct of investigations, analyses, assessments and conclusions of a technical nature. In case-law we note that the forensic technical expertise on digital data is rarely issued by courts. We also note that the reasoning of the courts in approving or denying such evidence is insufficient and unclear. To justify the denial of the evidence consisting in forensic technical expertise, the courts invoked reasons such as the celerity of criminal trials, the lack of usefulness of such proof (without providing a detailed analysis), and the court's own judgement regarding the authenticity of the recordings, from simply viewing / listening to the tapes. We believe that the courts should actively investigate the authenticity of the records used as evidence, since any deletion, editing, insertion of replicas or alteration of the original content of a recording can lead to a change in the meaning of a conversation. If an evidence is proved to be altered, it is necessary to eliminate such evidence from the case file.

**Keywords:** forensic expertise; audio-video recordings; digital data; technical surveillance

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<sup>1</sup> Associate professor PhD, Alexandru Ioan Cuza University of Iasi, Iasi, Romania, Address: 11 Carol I Boulevard, Iasi 700506, Romania, Corresponding author: sandra.gradinaru@yahoo.ro.



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## **1. Short Considerations Regarding the need to Conduct a Technical Expertise of Audio or Audio-Video Recordings Used as Evidence in Criminal Proceedings**

According to the provisions of art. 172 of the Romanian Criminal Proceedings Code, the expertise is carried out in the criminal trial when the opinion of an expert is necessary in order to establish, clarify or evaluate facts or circumstances of importance for finding the truth.

In the case-law of the European Court of Human Rights it has been decided that, when the tapings constitute an important evidence for the accusation, it is necessary to verify their authenticity: “The court considers that the recordings constituted, if not the only proof, at least the decisive proof against the complainant, without which it would not have been possible to secure his conviction (...) The domestic courts have neither listened to the audio recordings at the hearing, in the presence of the accused, nor have they responded to repeated complaints by the claimant concerning the illegality of the records”. (Botea v. Romania, Judgment of 10 December 2013, application No. 40872/04).

Law literature (Udroiu, 2018, p. 541) has highlighted that the obligation to carry out a forensic expertise report can no longer be judged as an absolute condition of legality. Such a proof can only be conducted if it is a necessary condition to discover the circumstances necessary to resolve the case or to take adjacent measures.

Law literature (Micu, Slăvoiu & Zarafiu, 2022, p. 276) has also argued that the need for the administration of expertise is manifested in a multitude of criminal cases, due to the diversity of extrajudicial problems that arise in criminal proceedings.

In order to acquire real evidence value, in a contradictory procedure and in compliance with the principle of equality of arms, the data obtained through the work of technical surveillance must be able to be analyzed by the Court.

The analysis of courts must consider the authenticity of the records, and this verification can only be carried out through a technical or forensic expertise of voice and speech, depending on the peculiarities of the case.

In order to verify the authenticity of a recording, the expert must analyse whether it was made simultaneously with the events contained and whether it has been altered since the time of its original recording. The expert must also check if the recording has been created with the equipment implied by the person who obtained the evidence in the first place.

In the absence of these elements, it is not possible to establish whether a record is authentic or fake.

We believe that when there is a suspicion that the data resulting from technical surveillance would not belong to the accused the carrying out of a forensic technical expertise on the optical media containing the results of the technical surveillance is mandatory.

Carrying out a forensic expert report is also mandatory when suspicions of alteration of the recordings arise from the written translation of the dialogue traced by technical surveillance, or from viewing, or listening to the tapes, when the alteration is obvious.

With regard to interpreting the evidence consisting of forensic technical expertise, this activity is performed at every stage of the criminal trial. The conclusions of the judicial bodies in the previous stages are not binding on the subsequent stages of the trial (Grădinaru, 2014, p. 19).

Finding the truth is a fundamental principle in criminal trials and is closely related to the notion of evidence. We believe that when the circumstances and facts essential to solving the criminal case are proven, by relevant, useful and conclusive evidence, rigorously analysed by the judicial bodies, will the judicial truth correspond to the objective truth (Grădinaru, 2017, pp. 23-24).

In some cases the analysis of recordings resulting from technical surveillance is not necessary for the main facts of the case, but to establish the authenticity of some evidence. For example, in the case of the recording of environmental conversations, through forensic reports it can be determined whether the evidence has been altered.

The purpose of obtaining such evidence is to verify the authenticity of evidence already obtained in the course of the criminal prosecution, indirectly serving to finding out the truth. If the expert report cannot establish that the recordings are authentic, we believe that these recordings cannot be used as evidence in criminal trials (Grădinaru, 2012).

## **2. Case-Law Analysis on the Admissibility of Evidence with Forensic Expertise On Audio and Video Recordings**

In this chapter we will analyze, in the light of examples from judicial practice, the criteria considered by the courts in the admission or rejection of such evidence.

**2.1. In a first case** under pre-trial procedure for the Bucharest Court of Appeal, registered under no. 4581/2/2022/a1, the accused denied that he had held the conversations from the records filed in the case file with the denouncing witness.

The accused requested the examination of the records filed in support of the allegations brought to him, in order to identify the technical means used for technical surveillance, to establish whether the technical media on which the records are stored are original and whether the recordings are authentic, or whether the records were interfered by deletion, insertion or other audio mounting elements.

The accused asked to determine whether the voices recorded and identified by the criminal prosecution bodies belong to him, to establish whether his voice was processed digitally and whether the content of the intercepted conversations is faithfully reproduced.

The accused claimed that the voice on the recordings does not belong to him, a different vocal tone is noted at short intervals of time, the voice being either thicker or thinner and the dialogue is inconsistent.

In order to settle the defendants claim, the Court ordered the hearing of the records in public trial. The Court found that there were no errors in the activity of reproducing the content of the taped telephone calls, that the timings stated for when these calls were made were correct.

By simply listening to the recordings, the court found that there was no suspicion to the authenticity of the disputed audio recordings.

No signs of alteration, distortion, modification, insertion of voices, intercalation of words, phrases or other elements of counterfeiting, additions, deletions have been identified by the court on the optical storage medium.

The taping of the accused's conversations was carried out on the basis of a judge's warrant, and the transcription was made shortly after the calls were made. For these reasons, the trial with forensic expertise requested by the defence was denied (final

hearing from 17.10.2022, preliminary court room of Court of Appeal Bucharest, file no. 4581/2/2022/a1).

We consider the view of the pre-trial judge of the Bucharest Court of Appeal to be wrong. The court proceeded to “expertise” through the judge’s own senses technically disputed records.

We believe that the court cannot replace the forensic expert and determine whether a record is altered or not.

Thus, the court’s conclusions that state that there would be no “traces of alteration, distortion, modification, insertion of voices, intercalation of words, phrases or other elements of counterfeiting, additions, deletions” are unfounded as the court only proceeded to view the recordings.

The Bucharest Court of Appeal did not carry out the analysis of spectrograms, waveforms, variations in signal levels, nor did it analyse the metadata of the files in which the records were found, aspects which are only part of the activities carried out by a forensic expert when verifying the authenticity and continuity of the tape recordings.

We believe that the conclusion of the pre-trial judge of the Bucharest Court of Appeal is null and void, since it contains statements that cannot be verified by a superior court in the absence of a forensic report.

### **2.3. We also draw attention to the formal and subjective nature of the grounds submitted by the courts with regard to administering or denial of the right to administer the evidence consisting in carrying out a report of forensic expertise on audio and audio-video recordings**

In a trial before the Vâlcea court, registered under no. 2862/90/2020, the accused disputed the taped recordings that were an essential proof of the indictment.

The accused argued that the recording were changed after they were performed, questioning the authenticity of the data obtained by the judicial bodies, but also the reality of the dialogues between the interlocutors.

The accused also disputed the fact that his voice was not identified in the recordings, also pointing to the statements of the witnesses that disprove the dialogues in the recordings.

The accused requested a judicial expertise on the voice, on the quality and authenticity of the taped recordings.

By the conclusion of the hearing dated 13.03.2023, pronounced in file no. 2862/90/2020, the Vâlcea court rejected the accused's request for evidence, arguing that such evidence is not necessary.

We believe that the solution of the Vâlcea court is wrong, all the aspects claimed by the defendant remained unsolved. The court restricted the right of the accused to defend himself by proving that the taped recordings were altered.

The court's grounds that important evidence is not be necessary for the case is arbitrary.

The accused (as well as any other person who reads the grounds presented by the court) will not be able to know the judge's reasoning for denying the means the evidence requested.

The lack of an effective justification may give rise to reasonable suspicion by the parties that the judge's decision was purely subjective and not based on the facts of the case.

Carrying out the means of evidence consisting of the forensic report in means to the taped recordings is an *posteriori* guarantee regarding of the technical surveillance procedure (Grădinaru, 2023). It is mandatory that courts eliminate any doubt regarding the evidence in the case file by ordering a forensic report conducted by an independent and impartial authority.

We consider that when there is a doubt that the data resulting from the technical surveillance would not belong to the accused and this results from the written dialogues of the calls, or from the viewing, or listening to the taped recordings, the ordering of a forensic technical expertise on the optical media containing the results of the technical oversight is mandatory.

We believe that the courts should pay more attention to the grounds they present for denying the defendant's right to dispute the evidence obtained by the judicial bodies. A careless denial of this right may infringe the right to a fair trial and also the defendant's right to defend himself.

### **3. Eliminating the Discrepancies of Forensic Reports – A Court`S Duty Derived from the Principle of Finding the Truth**

We put into discussion two situations from romanian case-law, in which the forensics reports written by experts from the National Institute of Forensic Expertise on audio recordings did not establish with certainty that the recordings are continuous or that they are not be altered.

We will analyze the different ways in which the courts have acted in these situations, which has influenced the final solution of the trail.

1. In a first case before the Bucharest Court of Appeal concerning the crime of forming an organized criminal group and trafficking in influence, the accused disputed the interception of recorded telephone communications in terms of the content of these calls.

The defendants disputed the telephone conversations with some of the other defendants, arguing that the content of these conversations had been modified, as well as the fact that the recorded dialogue has stutters.

The indictees concluded that the taped recordings have been modified after their original storage and it is necessary to carry out a voice-to-speech forensic expertise.

The court ordered to carry out the proof with forensic technical expertise, which was conducted by the National Institute of Criminal Studies - Bucharest Interjudicial Laboratory of Forensic Studies, with the aim of establishing whether the records on the optical storage medium found in the case file were altered.

The experts showed, for each of the files, variations in signal levels, waveforms and spectrograms of the recordings. These recordings have discontinuities caused by the muting functions. On short portions, the sound is unnatural or the voice of the interlocutors is intertwined, a phenomenon specific to the weak network signal.

It was noted by the experts that examining the level, wave shape and spectrograms of audio signals in the expert recordings showed no signs of change in the quantization levels or of the DC components.

It has also been noted that the time span of the missing parts of the vocal signal occur without interrupting the speakers` replies, reducing the noise in the pre-conference periods or in the short speech portions.

Given the location of the breaks exclusively in the recordings of the calls indicated by the accused, it is not excluded that the muting function may be a feature of the telephone device used by the interlocutor.

The experts have not identified any useful signals in verifying the continuity of the records in the contents of the contested records.

With regard to the hours at which the recorded calls were performed, the analysis of the intervals of unavailability of the recording equipment did not identify incompatibilities between the times when the interception system recorded the calls.

The experts concluded that no signs of alterations were identified either in terms of changing the hours at which these conversations were conducted or on the content of the conversations. The Bucharest Court of Appeal did not carry out further research, but concluded that the expert report administered was sufficient to resolve the case.

We believe that the expert report prepared contained discrepancies which should have been investigated by the court.

It was shown in the content of the expert report that the recording show discontinuities, there are periods of absence of the voice signal, there is unnatural interruption of the interlocutors' replies, and the voices of the defendant's are distorted in some cases.

However, the experts concluded that "no signs of change were identified either in terms of changing the hours at which these calls were conducted or on the content of the calls", and the recordings are continuous.

This last conclusion of the report is contradictory to what the experts highlighted before, as "no established signals useful in verifying the continuity of records were identified". Since such signals have not been identified, it was necessary to clarify in the case under discussion how did the experts determine that the recordings are continuous?

The fact that experts have not identified useful signals for verifying records does not justify them to claim that the records are continuous.

By decision No. 1092 of 22.10.2020, a conviction solution was ordered against the accused in the case under discussion, the records in the file, confirmed in terms of authenticity by the conclusions of the expert report having a decisive role in the pronouncement of this solution.

2. In the second case that we subject for discussion, conducted before the Dâmbovița Tribunal, registered under no. 1575/120/2022, on the offence of corruption (influence trafficking), two audio recordings covering the same factual situation



were submitted for expert examination. One came from the accused and one from the denouncing witness.

By the order issued by the prosecutor of the case on 30.05.2020 it was ordered to carry out a forensic expertise by the Interjudicial Laboratory of Criminal Expertise Bucharest, on the optical support filed in the file of the accused as well as the optic support filing by the denouncing witness.

Regarding the record filed by the accused, the conclusions of the forensic expert report no. 225/19.007.2021 indicate the following: the sequence of samples in the recording that was the subject of the expert examination underwent interventions in the form of collage, passages, (i.e. operations of deletion, addition, insertion, etc., signal sequences).

It was concluded that the recording filed by the accused is made by collage of passages, from the audio recording submitted by a denouncing witness that was the subject of the forensic report no. 269/04.11.2020.

From the conclusions of the forensic expert report No. 269/04.11.2020, drawn up on the audio recording on the optical medium filed by the complainant witness, it was concluded that it could not be established whether the contested recording was altered by inserting, or deleting passages.

In the content of the expert report it was noted that the record spectrum does not highlight stable technical signals, which would allow to establish the continuity of the record.

The expert concluded that the possibility of the disputed recording being continuous is not to be excluded and consequently, it cannot be established whether the recording had been altered.

Given the discrepancies between the conclusions of the forensic expert report No. 269/2020 and its content (in the sense that the report's reasoning claims that it would be a continuous recording, and it was also stated that it could not be established if it was altered), the court ordered the hearing the forensic expert in a public sitting.

The expert argued that when examining the recording he did not identify any traces of possible editing operations, but could not rule out this possibility.

The technical parameters were not sufficient to justify the conclusion that a record is continuous, because they could have been added later.

It was stated by the expert that only if they had the original equipment with which the recording was made would they be able to clarify whether recording is continuous.

Only by having the original device available could the expert verify the matching of the recording parameters and those of the device and if incompatibilities arise, then the conclusion would be that recording is altered.

As the expert did not have the original record, he was unable to certify its authenticity.

The court found that the outcome of the forensic expert report is in favour of the accused.

The court found that the level of proof necessary to convict the accused, the “beyond any reasonable doubt”, provided for in article 396 para. 2 of the Romanian criminal proceedings Code was not achieved.

The forensic expert report in question does not provide a clear answer, in the sense that the recording is continuous and has not been modified before the denouncing witness submitted to the criminal prosecution bodies.

According to article 4 para. 2 of the Romanian criminal proceedings Code, after the administration of the entire evidence, any doubt in the defendant’s guilt shall be interpreted in favour of the suspect or the accused.

The court found that following the assessment of the proof in question, the legal and thorough solution is that of acquittal under art. 16 para. 1 lit. b sentence I of the Romanian criminal proceedings Code.

We regard as correct and in support of the law both the solution of the Dâmbovița Court which applied the principle *in dubio pro reo*, and the way the court tried to clarify the discrepancies of the expert report carried out during the criminal prosecution.

The court could only have considered the explanation of the expert report in the sense that the recording from the complainant witness is continuous and no traces of alterations were identified.

In this case, there would most likely have been a solution to convict the accused. Instead, we note that the court has actively investigated the expert’s statement in the conclusions of the report.

We believe that the immediate hearing of the forensic expert was the right way to clarify the contradictions in the expert report.

Ordering a new forensic report could have led to a distortion of the criminal trial.

We also note the technical knowledge that the court has shown in investigating the issues in this case.

We believe that the training programmes for judges dealing with corruption cases (in which such evidence consisting of audio-video recordings is constantly used) should also include a course on how forensic expert reports are conducted on taped recordings.

Such a course would focus only on basic concepts, but would allow judges to verify the method of work of experts, to point out any irregularities or contradictions in expert reports and, if clarification of the report is necessary, to be able to ask criminal experts questions involving technical knowledge.

We believe that such a course would also be beneficial in terms of unifying the working method in the case of expertise on audio or audio-video recordings, since at the moment there is no common method of work.

#### **4. Conclusion**

Verifying taped recordings is a court's duty that derives from respect for the principle of equality of arms and the right to defence.

Analyzing the authenticity of an audio recording is a complex process by which it is aimed to determine whether the conversation reflects the fidelity of the acoustic events subject to the recording.

In this process, the expert verifies whether the taped records contain traces of alteration, whether they are made with the method indicated by the party that produced the samples, who, when and with what technical equipment created the record.

An authentic record must be original, continuous and unaltered.

We believe that the criminal expert cannot establish or assume the originality of an audio recording in which he has not participated, because digital objects can be cloned without errors, generating digital objects with the same content as the original.

By *law ferenda* we propose that in the situation where the audio or audio-video recordings are contested by the accused and there are means of doubt that the taped records used as evidence are not authentic, the ordering of forensic technical expertise of the optical media containing these recordings is mandatory.

We believe that the courts should have an active role in investigating the authenticity of records used as evidence in criminal proceedings and ask for additional clarifications from the expert whenever there are inconsistencies or contradictions in the forensic expert report.

In this regard, we appreciate it useful to organize vocational training courses by the National Institute of Magistracy, respectively by the Superior Council of Magistrates, in collaboration with the National Criminal Research Institute in which to present the basics of conducting an audio and audio-video forensic expertise.

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