## Tape Experts Say It May Be Possible To Restore Gaps

By John Hanrahan Washington Post Staff Writer

Two former CIA employees skilled in computer and recording work say the technology exists to possibly restore portions of the 18 minutes of President Nixon's June 20, 1972, tape that Mr. Nixon's secretary, Rose Mary Woods, says she may have accidentally erased.

One of the former CIA men said that the humming noise on the erased portion could conceivably have been caused by a tensor lamp the White House says was near Miss Woods at the time of

the erasure.

He also said the hum could have been caused by passing the tape through "some kind of strong magnetic field." Use of a magnetic field, both sources said, would almost certainly have been deliberate, done to ensure that the erased portion can never be restored.

The restoration process in ordinary erasures is made possible through the use of

a digital computer.

George O'Toole, a former CIA computer specialist, and another former CIA employee in the field of signal processing who did not wish his name used, said in telephone interviews that the CIA and other intelligence units, particularly the National Security Agency (NSA), regularly engage in such "signal enhancement."

O'Toole said this involves both recordings that are of poor quality and must be made more audible, as well as recordings that have been erased or have been re-

corded over.

A taped conversation that is erased or recorded over on the tape machine, O'Toole and the other source said, continues to give off a latent signal that it is possible to restore in

whole or in part.

"By careful filtering, processing and amplifying," with the assistance of computers, "it is possible to restore some or all of the original conversation" if it was not erased by being passed through a magnetic field, the unnamed source said. He cautioned that the restoration process is difficult and by no means a sure thing.

O'Toole said that the process of recapturing "lost" tapes involves eliminating any buzzing sounds from the

recording until you can hear only a hiss. This hiss, which may contain the vestiges of the original conversation, then can be fed into the computer, which enhances the weak signal and makes audible all or part of the original conversation, he said.

O'Toole and the other source said that in any conversation restored by computer, it might be possible only to identify some words, and that it probably would be difficult to identify the speaker in most instances because of the distortion that occurs to the voices as the tape goes through the restoration process.

"You usually get something that sounds worse than an early Caruso recording," the anonymous source said. O'Toole, however, noted that even if you can only identify some words, you might be able to establish the subject matter and the gist of a particular conversation.

In the June 20, 1972, conversation at issue, Mr. Nixon maintains he never discussed the Watergate affair at the time with his then top

White House domestic aide, John D. Ehrlichman.

In his sworn testimony last summer to the Senate select Watergate committee, Ehrlichman said he was sure "there must have been some discussion" of the Watergate affair with Mr. Nixon in that conversation.

Both sources said it was unlikely the 18 minutes of the June 20, 1972, conversion are completely lost, unless a magnetic field was used.

The German-made Uher Universal 5000 tape recorder used by Miss Woods "does not have tremendously powerful erase heads," O'Toole and the other source said.

This means, they said, that when that machine is used to record over a portion of tape that already had a conversation on it, the

original conversation can no longer be heard but it probably has not been totally wiped out.

O'Toole and the other source said that intelligence agencies, in erasing their own classified tape recordings, realize that the erase features of even the most sophisticated tape recorders are not usually sufficient to eliminate the latent signals.

For their own tapes, intelligence agencies require "an elaborate degaussing (erasure) procedure of passing the tapes through a magnetic field" because they realize that a computer could be used to restore the latent gignal, which would be harmfu<sup>j</sup> if the tape fell into the wrong hands, they said.

Most tapes of the type Miss Woods used have two tracks, the anonymous source said, and if it is shown that both sides of the tape in question have been erased, that would almost definitely indicate that the tape went through a magnetic field, he said.

The source said he preferred not to have his name disclosed in the newspaper because he is now in private business and did not want "to get into trouble" or to appear to be "taking a swipe at the government or the agency, as a lot of former agents have done recently."

O'Toole cautioned that the more times an erased tape is played back on the machine, then the more the latent signal of the original conversion fades away. The anonymous source added, however, that only a few such playings would make little difference, and that it would take many playings to decrease the signal significantly.

O'Toole said that most private firms with expertise in tape recordings are unfamiliar with the process of restoring erased tapes. Most of the expertise in that area is held by NSA, CIA and a few private firms doing business with the intelligence community, he said. that a panel of six experts

The other source said chosen by Chief Judge John J. Sirica, of the U.S. District Court, who is handling the tapes, contains at least some members who are aware of the procedure for estoring "lost" tapes.

## Watergate: The President and the Evidence

FIRST THERE was the President's silence about the fact that the White House (tapes)-potentially vital evidence in a criminal investigation—even existed. Then, upon disclosure of their existence by Alexander Butterfield, there was the President's refusal to make them available to either a Senate Committee or to a United States District Court. After that, the President litigated the issue with both the Senate Committee and the Watergate Special Prosecution Force. When he lost the case involving the Special Prosecutor in the U.S. Court of Appeals, Mr. Nixon declined to appeal the decision to the Supreme Court, attempting instead to impose his own solution on the courts and on the Special Prosecutor who had won the case against him. Thereupon it was announced—the Special Prosecutor having been fired for his refusal to accept the President's solution-that the President would comply in full with the order of the court. At this point, however, the White House asserted that only seven of the nine tapes subpoenaed by the Special Prosecutor would be produced because the other two had never been recorded. Whereupon the President offered as a substitute for one of the missing tapes a dictabelt recording of his own recollections of the conversation in question. As luck would have it, however, he was unable to find that dictabelt in the file where he thought it would be. Subsequently, the President assured the Republican governors that the seven remaining tapes were audible and intact. The following day his lawyers informed Judge John J. Sirica that this was not quite the fact: 18 minutes on the tape of what well may be the most crucial conversation among those subpoenaed consisted of nothing more than a wordless hum.

So now we have the President's lawyers and his personal secretary, Rose Mary Woods, down at the court house trying to explain how the taped record of 18 minutes of conversation got obliterated—and why the court and the country are just learning about it now. This is the way their explanation goes:

• The reason we are only learning about this fact now, although the President by Miss Woods' account was informed of it on Oct. 1, is that not until Nov. 14 did it occur to any of the President's lawyers that the tape of this particular conversation was included among the subpoenaed material. The conversation in question took place between the President and his White House Chief of Staff, H. R. Haldeman, between 11:26 a.m. and 12:45 p.m. on June 20, 1972, immediately after a conversation between the President and John Ehrlichman which began at 10:25 a.m. When the former Special Prosecutor, Archibald Cox, drew the initial subpoena, he was working from data furnished by Mssrs. Haldeman and Ehrlichman which made it unclear whether the President had met separately or jointly with them and indicated that the encounters had ended at 12 noon. On August 13, however, on the basis of presidential records, Mr. Cox filed in court a memorandum in support of the subpoenas which even the most casual reading demonstrates eliminated any ambiguity about his interest in the President's conversation with Mr. Haldeman that morning. For one thing, he amended the time for the ending of the conversation from 12 noon to 12:45 p.m., which is when the White House agrees the President's session with Mr. Haldeman ended. For another, he

stressed the importance of an earlier meeting that morning between Mr. Haldeman, Mr. Ehrlichman, John Dean, John Mitchell and Richard Kleindienst which had to  $d\mathbf{o}$ with how to handle the Watergate burglary three days earlier, and said from this meeting "Ehrlichman and then Haldeman went to see the President." Mr. Cox's memorandum went on to say that "the inference that they reported on Watergate and may well have received instructions, is almost irresistible." The President's lawyers now claim that it took them from August 13 to November 14 to figure out that this definition of what Mr. Cox was subpoeaning included the President's conversation with Mr. Haldeman. Indeed, Miss Woods has testified that both General Alexander Haig and the President had told her well after Mr. Cox's August 13 memorandum that the Haldeman conversation was not included in subpoenaed material. This, essentially, is the White House explanation for why it didn't think-up until November 14-that the missing 18 minutes passage was worth telling the court about. No explanation has been given for why the White House, having concluded on November 14 that the 18 minute passage was part of the subpoenaed material, did not instantly so inform the court that it was missing.

- As to why this material is missing, Miss Woods' testimony has materially changed each day she has appeared on the witness stand. On November 8 she talked at length about the difficulties of transcribing the June 20 tape for the President without ever mentioning that any of it was missing. Morever, she indignantly rejected any suggestion that she might have inadvertently marred or erased any of the material on which she had been working. However, on Monday of this week Miss Woods said that, yes, she believed she had inadvertently caused the erasure of the 18 minute missing segment by pushing the wrong button while distracted by a telephone call. Yesterday, Miss Woods was less certain that she was responsible for anything more than a few minutes of the entire erasure. She said she had in fact so informed the President, which leaves us back with no real explanation for what happened to this tape.
- Meanwhile, already down two tapes, one dictabelt and 18 missing minutes, we are now suddenly asked by the President to entertain yet another claim of executive privilege concerning all or part of three of the remaining tapes now in Judge Sirica's custody. In at least one instance involving the June 20, 1972 conversation with Mr. Ehrlichman, his lawyers are making this claim on the grounds that "nothing in the conversation relates to Watergate or anything therewith." Mr. Ehrlichman, on the contrary, carefully revised his earlier sworn testimony before the Ervin Committee last summer and asserted on July 30 that "I am sure there must have been some discussion of the Watergate with the President on that occasion on the 20th."

To put it mildly, none of this looks to us like the record of a man imbued with respect for the dignity and authority of the courts. Still less does it look like the record of a man who is eager to get out the truth about Watergate and who, in his own words, has "nothing to hide."