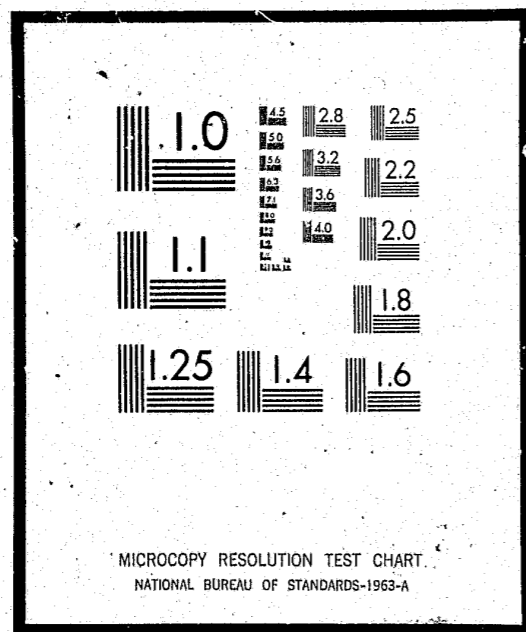


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JUDICIAL COUNCIL OF CALIFORNIA

ADMINISTRATIVE OFFICE OF THE COURTS

Report and Recommendations
concerning
Alternatives to Court Reporters
in Municipal Courts

CCCJ Project #1241

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INTRODUCTION

The Municipal Court Reporting Study was conceived as a result of concern over the lack of records of criminal proceedings in some courts. The United States Supreme Court in the case of Mayer v. City of Chicago (1971) 404 U.S. 189, 30 L.Ed. 2d 372, ruled unanimously that defendants in all criminal cases, even misdemeanors, are entitled to "record[s] of sufficient completeness" to present their claims to an appellate court.

At present in California, municipal courts do not uniformly maintain records of all proceedings. Some courts provide a stenographic reporter for all proceedings while others employ reporters only for felony preliminaries.

For all municipal courtrooms to employ full-time stenographic reporters would be prohibitively expensive. In Mayer, the Supreme Court indicated that an "alternative" to a complete transcript could suffice for an effective appeal.

The Municipal Court Reporting Study was undertaken by the Judicial Council and funded by The California Council on Criminal Justice to determine if tape recorders can be used to supplement the present recordkeeping procedures in the municipal court. This project evaluated electronic recordings of proceedings which were then used as a reference for judges and as an aid to clerks in preparing court records.

Other project objectives were to ascertain the various uses that might be served by the electronic recording of all proceedings, to develop recommendations regarding storage, retrieval, and security of the recorded proceedings. The study also includes an inventory of the present use of shorthand reporters in the California municipal courts and a survey of the use of electronic recording equipment in other states.

The project was conducted for the Judicial Council by the Administrative Office of the Courts. Mr. Robert W.

Page served as project manager for the preparatory phase of the project and Mr. William E. Davis was project manager for the remainder of the project. Mr. Ray F. Bietz assisted in preparing the report.

STUDY DESIGN

The purpose of the project was to determine if tape recorders can be used to supplement the present record-keeping procedures of the municipal court. The reason for the study is the increasing necessity for courts to provide complete and accurate records of all the public's business conducted within the court system and reduce the ever-increasing costs of the present method of court reporting. A recent study on court reporting indicates that tape recordings can be relied upon to make an accurate court record at a reduced cost.^{1/}

The extent of the court record required in the municipal court proceedings, except for felony preliminaries, has not been determined either by the Supreme Court or the Legislature. Nor has the necessity for a total record of all municipal court proceedings been demonstrated.

Twenty-five recorders were placed in twenty-five different courtrooms across the state with a diversity of acoustical conditions that would have been impossible to either plan for or anticipate. The participating courts were requested to comply with any reporting requirements made by the project. The reports, including on-site oral reports, were designed to provide the project director with the data on which an evaluation could be made as to the feasibility and effectiveness of the use of tape recorders. The reports were also designed to provide a means for monitoring the participating courts to insure proper utilization of the tape recorders and to identify problems which could be corrected during the term of the project. The specific reports are discussed below.

^{1/} A Study of Court Reporting; A Feasibility Study of Alternative Methods of Preparing Court Transcripts, conducted in Sacramento Superior and Municipal Courts (November 1973).

Monthly Reports

Each participating court was requested to submit two monthly reports. The reports were to be submitted by the person actually monitoring the tape recorder and by the project coordinator in each court. The monthly reports were designed to identify problems encountered in the regular use of the tape recorders. (See Appendix F, p. 57.)

The responses from the monthly reports were tabulated and used in writing the evaluation sections of this report.

Oral Interview Reports

The project manager visited each court participating in the project three months after the tape recorders were installed and interviewed personnel participating in the project, including monitors, coordinators and judges. A prepared questionnaire was utilized during these interviews and was designed to elicit information not necessarily obtained from the monthly reports. (See Appendix G, p. 62.)

Final Evaluation Questionnaires

Each project coordinator and participating judge was requested to submit a final evaluation questionnaire designed to obtain specific information as well as general recommendations and comments concerning the use of tape recorders. The results of these questionnaires formed, for the most part, the basis for the recommendations made in the final section of this report. (See Appendix I, p. 70.)

SYNOPSIS OF FINDINGS AND RECOMMENDATIONS

Tape recorders can be relied upon to make court records or to supplement existing court records. The present recordmaking system in the majority of California's municipal courts consists of handwritten minutes made by the courtroom clerk. This procedure is cumbersome and not always accurate. Tape recorders can provide a reliable supplemental record of court proceedings.

The absence of a full-time monitor for the tape recorder was the principal concern of 15 (50 percent) of the judges who participated in the study. Because of the absence of a full-time monitor these 15 judges were uncertain about making a formal recommendation for incorporation of the tape recorder into the municipal courts. Yet, these same 15 judges reported the tape recorder had made a satisfactory record of the proceedings where it was utilized.

Over 300 separate municipal court proceedings were evaluated as to the sufficiency and adequacy of the record made by the recorder and 82 percent were determined to be satisfactory. Forty-three percent of the recordings contained additional useful information not otherwise found in the court's record. Human error was responsible for the unsatisfactory nature of 10 percent of the taped proceedings.

Two legal problems were foreseen by the judges regarding possible enabling legislation to officially permit the use of tape recorders. Specifically, the two problems were: (1) whether the tape recorded record or the clerk's minutes should prevail in the event of a discrepancy, and (2) the time limit for retention of the recorded tapes.

It is recommended that a statute be enacted to permit the use of tape recorders as a supplement to the present recordkeeping process in municipal and justice courts. The statute should also provide an answer to the question of whether the tape or the clerk's minutes should prevail in the case of discrepancy.

Over 2,100 hours of recording time were logged by the courts participating in the project. This figure is low because four courts did not regularly submit the monthly reports where the amount of recording time was reported. Twenty-four different types of proceedings were recorded and, based on the courts' experience, recommendations were made as to where tape recorders can be most useful to the court.

It is recommended that tape recordings be used for (1) criminal proceedings in which guilty pleas and/or waivers of rights are taken, (2) criminal trials at which no court reporter is present, and (3) civil trials which may later require a settled statement. In addition, it is recommended that tape recorders be used whenever the clerk may need to verify the record by referring to a source other than the docket/minutes. Included in such proceedings are law and motion and special hearings.

During the course of the project the courts found other uses for the tape recorders. Several courts reported they had used the recorders during the course of trials to replay previous testimony of witnesses or argument by counsel. On two occasions it was reported that counsel requested playback of specified portions of a trial at the lunch break and, because of the availability of the "instant record," were able to come to an early settlement of the case.

Two judges found that the tape recorder afforded them an opportunity to evaluate their own courtroom performance. One judge, in particular, made a point to replay tapes when he found that he had lost his temper or become irritated with counsel during the course of proceedings. The tape allowed him to have an instant replay of the emotions that had occurred in the courtroom and, by so doing, he could identify those factors which precipitated his emotion. This procedure provided him opportunity to "improve" his own courtroom performance.

Tape recorders have long been used in education, and two courts used recorded tapes to train new courtroom employees. There are very few training programs for new employees in courts. Utilizing tape recorders provides a method for improving those programs.

It is recommended that tape recorders be utilized by courts to increase their recordkeeping capacity, to make settled statements for appeals and, upon request, to be made available for replay during the course of trials. Tape recorders can be incorporated into training and evaluation programs for judicial and nonjudicial employees.

Courtroom clerks are responsible for making the court record in the absence of court reporters. The clerks are most familiar with the required elements of a court record. Monitoring a tape recorder in addition to performing the other court duties is challenging and difficult. Twelve courts recommended the system of relying upon the clerk to partially monitor the recorder and continue doing other tasks. Full-time monitors would undoubtedly be the preferred system, but the cost of an additional person will prevent some courts from adopting that system. The clerk can perform both functions. Proper training and easy-to-operate recording equipment will increase the likelihood of achieving successful results with tape recorders.

Installation of tape recorders should be planned by the court. Few courts have accessible electrical outlets. Most courts have amplifying systems that cannot be used by a multitrack recording system. Court security plans for expensive tape recorders must be developed. Accessible filing systems for tapes, unrecorded or recorded, must be created.

It is recommended that the courtroom clerk be assigned the monitoring duties. Lockable storage cabinets should be installed in each courtroom where the recorder is to be used. The tape recorder should be placed in close proximity to the clerk/monitor. Recorded tapes should be filed under the direction of the clerk of court and should be stored under an indexing system

including as a minimum the following: department number, date and type of proceeding(s) recorded, case name(s) and number(s) recorded, reference to the docket and log of the recorded proceedings.

It is recommended that procedures be adopted to insure the security of the tape recorders when court personnel are absent from the courtroom. Such procedures would include the locking of the recorders in storage cabinets when the monitor left the courtroom. The procedures should also call for the locking of the courtroom when it is not in use.

It is recommended that used tapes should be placed under the control of the clerk and monitor to insure their security. They should be in locked storage cabinets, and should not be allowed out of the control of the clerk or his representatives at any time. If a request that the tapes be played back is made, an employee of the clerk's office should operate the machine and be present at all times.

The four-channel tape recording unit is adequate for the municipal court. The tape unit used in this project produced a satisfactory record of the oral proceedings. The unit is light enough (24 lbs.) to be easily transported into the judge's chambers. It is easy to operate and maintain. The cost of the unit, with appropriate modifications, is under a thousand dollars.

It is recommended that the electronic recording device at a minimum have design characteristics similar to the recorder used in this project. Those characteristics are set forth in Appendix D of this report. Additional characteristics which are desirable but not required are: microphone cord with sufficient length to allow placement in any part of the court; digital counter large enough to be seen from a distance of 10 feet; automatic volume control; sound device to warn when the tape is about to run out; and a fifth microphone placed in the exhibit area of the courtroom.

It is recommended that the courts using tape recorders should establish a procedure whereby the entire system is checked each day prior to actual use and batteries in microphones are replaced on a regular basis.

It is recommended that courts should secure an additional tape recorder for use as a playback machine and as a backup machine.

It is recommended that courts establish a place within the court facilities where tapes could be played back for attorneys and litigants without counsel.

PROJECT FINDINGS

Record Made by the Tape Recorder

The tape recorders were utilized in all types of municipal court proceedings. The chart below reflects the kinds of proceedings and the number of hours the tape recorders were used in each kind of proceeding during four months of the project.

Felony arraignment	154
Felony preliminary	73
Misdemeanor arraignment	307
Misdemeanor court trial	105
Misdemeanor jury trial	124
Traffic arraignment	288
Traffic court trial	144
Traffic jury trial	101
Selected traffic violations	227
Civil actions (excluding small claims)	192
Small claims	118
Pretrial conference	85
Other Hearings	
Order to show cause	57
Sentencing	27
Pretrial disposition	21
1538.5 motions	8
Jail arraignments	8
Probation revocation	6
Jury setting	5
Criminal motions	4
Calendar calls	3
Bail exoneration	1
Diversion hearing	1
23702.2 hearing	1
Total Hours of Recording	<u>2,126^{2/}</u>

2/ The following courts did not comply with the monthly reporting requirements: Fremont-Newark, Modesto, Monterey and Visalia. The number of hours listed for the four-month period, therefore, reflects only the recording time of 19 tape recorders, or 73 percent of the total time.

Out of this total number of hours there were only 11 reported incidents of mechanical failure, and 5 of those incidents were caused by human error. Twenty-three courts found this tape recorder is reliable in terms of recording performance and mechanical reliability.

The judges were asked to evaluate the effectiveness and accuracy of the record made by the tape recorder. Their evaluation was solicited because they are ultimately responsible for the court record. The use of tape recorders for a six-month period by the judges provided them with ample time to make an adequate evaluation of the taped record and identify any concomitant administrative and legal problems that may occur in a court that uses tape recorders.

Twenty-three of the participating 25 judges interviewed after three months of having the recording equipment in their courtrooms indicated that the recorder can make a satisfactory record of municipal court proceedings. Eight of the judges' opinions were qualified by the following conditions: development of improved speaker identification program; the need for a full-time monitor; continued technological improvement in recording equipment; and the development of standards for administering the tapes. Only two judges indicated the recorders were unreliable and could not make a satisfactory record for the municipal court.

In the final evaluation questionnaire the judges were asked if they would recommend that the tape recorder be incorporated as an official recordmaking instrument for the municipal court, and 12 judges replied yes. Six judges replied no. Another 12 judges were uncertain. The 12 judges who were uncertain indicated that the principal reason was the absence of a full-time monitor for the tape recorder. According to the uncertain judges, the present system of relying solely upon the courtroom clerk or bailiff to monitor the proceedings is not adequate. Three responses indicated that the need for a "complete" record in the municipal court

as provided by the tape recorder has not been established and, therefore, in their opinion, the costs of tape equipment are not justified. Three other judges expressed uncertainty because, in their opinion, only certain proceedings should be recorded instead of all the proceedings conducted in the municipal court.

Of the six judges responding in the negative to the above question, three indicated that their reasons were also the absence of a full-time monitor for the recorders. Two judges stated that the tape recorder was not able to pick up the sound of voices or there was poor voice quality. One judge indicated that the cost of tape storage was the sole deterrent against utilizing the tape recorder as an official recordmaker.

The twelve judges who changed their opinion of the recorder in the final evaluation did so as a result of the lack of a full-time monitor. This same problem has been discussed by observers of the Alaska court system's use of tape recorders.^{3/}

The effectiveness of the tape recorder is reduced by not having a full-time monitor. If a full-time monitor were made available, the 12 judges would support the tape recorders as a supplement to the recordmaking process of the court. It would therefore seem that in planning the use of tape recorders to produce a complete record of the proceedings in the municipal court, the costs of employing a full-time monitor for the tape recorder must be taken into consideration.

The judges formed their opinions on the adequacy of the tape recorders by listening to the tapes, hearing reports from clerks, bailiffs, attorneys and other judges. Out of 159 proceedings, the judges found 79 percent or 126

^{3/} Court Reporting: Lessons from Alaska and Australia, published by the National Center for State Courts, Pub. No. R0010, February 1974, p. 12.

to be satisfactory records of what transpired in the courtroom. Ten judges commented that having voice recordings was especially useful in certain proceedings. One court which conducted two contempt hearings during the course of the project reported that the tone of voice and the manner of speaking were useful factors not otherwise available in assisting the court to reach a decision on the contempt charges. Another judge also reported an instance where contempt proceedings were considered but were not instituted because the replay of the tapes was a sufficient warning to the prospective defendant that his conduct was improper.

The project coordinators were also requested to make an evaluation of taped proceedings and compare them with the official court records. One hundred fifty-four taped proceedings were evaluated and of the 154 proceedings, 131 or 86 percent proved to accurately reflect the official record. Of the 131 proceedings, 73 contained additional useful information not found in the final record. Fifteen of the 22 proceedings were unsatisfactory according to the clerks, because either the judge failed to identify speakers or to clarify nonverbal responses, or the clerk's monitoring information was incomplete.

A total of 313 proceedings were evaluated and 82 percent proved to contain a satisfactory representation of the oral record. Ten percent of the proceedings were determined to be unsatisfactory as a result of human error. The most common examples of human error were that batteries went dead in microphones or the tapes ran out during the course of proceedings. Both of these problems can be readily detected and resolved if the machines are inspected prior to the convening of court.

In the judges' evaluation, 8 of 28 judges stated the record was unsatisfactory because batteries were dead in the microphone (4), or tapes ran out during the course of proceedings (2), or speaker was not identified on the tape (1), or there was a mechanical defect (1). Nevertheless,

the tape recorders were determined to have made a satisfactory record of proceedings by 82 percent of the judges and clerks, or by 92 percent if discrepancies in the record caused by human error or omission are eliminated.

The results of the study clearly show that tape recorders can serve satisfactorily as a part of the record-making process in the municipal court. The tape recorder provides a reliable supplement to the courtroom clerk's minutes of the court proceedings. The record made by the recorder is improved by the amount of time devoted by the monitor to logging the proceedings.

Potential Problems if Tapes are Adopted as a Part of the Recordmaking Process

The principal problem noted by the judges was the need for a time limitation on retention of recorded tapes. The judges recommend that either as a part of enabling legislation or by a Judicial Council rule of court or standard of judicial administration a time limit be placed on the retention period for recorded tapes. Many courts are presently faced with inadequate storage facilities for court records and, consequently, the increased burden of retaining reels of tape reduces the desirability of utilizing tape recorders. No specific recommendations regarding this problem were made.

Another problem noted in the evaluation was the possibility of a discrepancy between the courtroom clerk's record and the recorded tape. This problem should be addressed by legislation or court rule. No specific recommendations regarding this problem were made.

Recommended Proceedings for Recording

Since the need for a "complete" record of all municipal courts' proceedings has not been demonstrated, this project attempted to identify those proceedings where the tape recorders would be most useful to the court. The

purpose of such an identification was to assist those courts contemplating the use of tape recorders in making decisions as to how many recorders are needed and in which courtrooms they should be placed. The recommendations of the judges as to the type of proceeding where the tape recorder would be most useful were as follows:

Law and motion and special hearings	10
Arraignments	6
Civil trials with a jury	5
Small claims	2
Same in all proceedings	8
Uncertain	3

The project coordinators responded to the same question in the following manner:

Civil trials with juries	9
Small claims	3
Preliminary examinations	3
Law and motion	3
Arraignments	1
Same in all proceedings	2
Uncertain	3

The clerks recommended the use of the recorder in law and motion and special hearings because there is less routine and the task of making a record is more difficult. Fewer preprinted forms are used and a handwritten record of proceedings must be made. The tape recorder is particularly useful to the clerk in such proceedings for verification of the court record.

The judges recommended that the special proceedings be recorded because the clerk has more time to monitor the recorder and the judges often defer decision making in

those proceedings. The tapes also can be replayed for purposes of clarification or verification of disputed matters.

The recommendations concerning the other proceedings were based upon the absence of a court reporter for those proceedings. The tape recorder served as a supplement to the minute sheet or the judge's own notes. There was disagreement among the judges on the utility of the recorder in small claims and traffic matters. Two judges recommended that a recorder not be used in small claims and two judges recommended its use. The only apparent difference was that the two judges who recommended against recording small claims both sit in three-judge courts, and the two judges in support of recording small claims sit in four-judge or larger courts where small claims constitute a specific department of the court.

The chart on page 9 indicating the total number of hours of recording time in each type of proceeding also indicates the extent to which the different proceedings were evaluated by the courts participating in the project.

The tape recorders were extensively used in all municipal court proceedings. Based upon that experience, the judges and clerks recommended use of tape recorders in special hearings, law and motion hearings and arraignments. The recommendations take into account the need of the court to have more complete information and the limitation of funds available to courts for purchasing equipment and supplies and for personnel and storage costs.

Other Uses Found for the Recorders

Courts have used the recordings for the purpose of replaying portions of the tape at selected times during the course of court proceedings. The tape recordings were used as court reporters are used - to make an on-the-spot verification of what had previously transpired. Whether this type of use is either necessary or desirable, the tape recorders

made it feasible according to the reports submitted by the participating courts.

Court clerks have used the recordings to verify their docket or minute entries. This type of use is practical because it requires the purchase and retention of very few tapes, thus minimizing the cost. Yet, the benefit to the court and the public is high in that the accuracy of the docket entries is virtually assured. This type of verification is justified and needed.

One important way in which some courts have used the tape recordings is to prepare settled statements for appeal purposes. This is a practical use, because once the settled statement has been made, there is no need to retain the recording. Thus, no large supply of tapes would be needed, decreasing the cost factor. On the other hand, it is of benefit to all parties because with a tape recording to refer to they are able to agree on what transpired in the proceedings. Where only dockets and memories are available, obtaining agreement on a settled statement is more difficult.

Although intended to be used primarily for record-making/supplementing purposes, some courts have found other uses for the tape recorders. Judges have used the recordings as a means of self-evaluation. One judge commented that when he had found himself irritated or upset during the course of a proceeding he would later listen to the tape to ascertain the cause of his irritation. He felt he could better cope with these irritations if he understood their causes and the effects they had on his conduct in the courtroom. This type of use for recorders does not readily lend itself to quantification but does represent a potential use for those judges who are inclined toward self-evaluation.

Other courts have used tape recorders to train new personnel. There are presently few training programs for new administrative personnel within the court system. The tape recorders in this project were utilized in two courts to train new courtroom clerks. By listening to the

recorded tapes of court sessions, these new employees were able to learn about their prospective jobs and the duties they must perform in the courtroom before entering the courtroom. During this process these new employees also became familiar with the operation of the tape recorder and subsequently had no difficulty incorporating the tape recorder into their work patterns as courtroom clerks.

Courts have also found an unexpected use and benefit from tape recorders. The presence of the recorders in the courtroom has had a positive effect on the decorum of persons appearing in court. It was observed that the fact that the proceedings were being recorded tended to temper the manner in which the public and legal counsel conducted themselves in the courtroom.

Monitors of Tape Recorders

Since the primary purpose of placing a tape recorder in a municipal court is to supplement the clerk's record, it would appear to be most feasible for the clerk to be designated as the monitor of the tape recorder. In many situations the clerk is the only nonjudicial court personnel present in the courtroom while court is in session.

Twelve of the 18 courts participating in the project designated the courtroom clerk as the monitor of the recorder. The major problem in monitoring seemed to be an inability on the part of some clerks to perform the two duties simultaneously. Six of 16 project coordinators reported that clerks found it difficult to maintain the docket or minutes while at the same time monitoring and logging the tape recorder. This difficulty increased with the inexperience of the clerk with the tape recorder. Conversely, the difficulty appeared to decrease as the clerks/monitors became more familiar and experienced with the operation of the tape recorders.

Ten of 18 project coordinators reported that the monitor satisfactorily performed monitoring and courtroom

duties. Six project coordinators replied that the monitors were not able to perform both functions and two project coordinators did not respond to the question.

Three of the 10 project coordinators who reported that the monitor satisfactorily performed both courtroom and monitoring duties also indicated it was quite difficult for the clerk to perform both functions. It was noted by the clerks that the value of the logged record and, consequently, of the tape was increased proportionately to the amount of time the monitor could devote to the tape recorder.

Four courts assigned the bailiff the duty of monitoring the tape recorder. This was done primarily because the bailiffs have more time available than the clerks and, thus, could easily handle the additional tasks. The bailiff cannot monitor the tape recorder when he has to leave the courtroom while court is in session, which is a common occurrence in criminal proceedings.

Alternatively, the monitoring duties were shared by the clerk and the bailiff in two courts. However, 22 judges and clerks of court, when asked who should have the monitoring duties, responded that the courtroom clerk should have those duties because he is responsible for making the court record in the absence of a court reporter.

At least one court solved the clerk/bailiff problem by assigning a third person to monitor the tape recorder. A better logged tape recording was the result, because that person's complete attention could be devoted to adjusting and monitoring the machine while court was in session. The log was more complete because the monitor had ample time to make rather detailed entries. The tape was more beneficial in that specific portions of the recorded proceedings could be quickly located.

The method of logging that provided the best results was the one in which the courtroom clerk made notations on the docket sheet. This eliminated the necessity of keeping two separate sheets with essentially the same entries.

This method also eliminated the necessity for a duplicate filing system for these records.

The evaluation questionnaires indicated that a positive attitude on the part of the monitor of the tape recorder toward the purposes of the project and the use of tape recorders in courts meant a minimum of problems in the use of the recorders. On the other hand, those courts using personnel having a negative attitude toward the recorders continually had more problems with the tape recorders. The monthly reports and the visit to the courts by the project manager indicated during the course of the project that most of the negative attitudes encountered in the installation process changed to positive with continued use of the recorders. This was particularly true where the negative attitude was based upon a fear of or unfamiliarity with the tape recorder and a preconceived notion that monitoring the recorder would unduly interfere with the performance of regular duties.

Different courts had different training programs, some of which used the attached Training Manual, Appendix K. One court conducted its own training program. The project coordinator for that court wrote his own training and operational manual, containing not only technical material, but also explaining the reasons for and purposes of the project. The training sessions involved all personnel who would come in contact with the tape recorders, including the judges, clerks, bailiffs and representatives from the offices of the district attorney and the public defender. The coordinator also called in a representative of the local court reporters to explain the project and to allay any fears the reporters might have about the recorder's use. The entire program was designed to provide everyone with information about the use of the tape recorders. According to the coordinator and the courtroom clerks, this program served to change preconceived negative attitudes to neutral or positive ones, and the net result was an increase in the court's ability to effectively

use the recorders. The courtroom clerks interviewed in that court expressed the view that they were initially opposed to the use of the tape recorders but after training and use they supported the permanent use of the recorders.

Another problem relating to the feasibility of placing tape recorders in municipal courts is that six courts found the tape recorders interfered in varying degree with the business of the court. Some judges were disturbed when the monitors had to change tapes or to ask someone to speak up. Courts solved this problem by developing a signal system between monitor and judges so that the judge could issue appropriate directions. Others scheduled recesses at specified times to preclude a tape running out during court proceedings. All but one of the courts faced with this problem found it to be insignificant. Still other courts used the procedure of changing the reels during the scheduled or called recesses so as to avoid later interruption of the proceedings.

The choice of the tape recorder monitor is the key to achieving successful results with the recorder. The courtroom clerk/monitor must be able to operate the recorder, make pertinent notes during the course of the court proceedings, and continue to perform the regular courtroom duties. A training program with clear judicial support will increase the likelihood of achieving satisfactory results. Based upon the personal observations of the project manager, in those courts where the judges were interested and assumed an active role in the project, the administrative personnel were more inclined to be positive about the use of the tape recorders. The attitudes of the administrative personnel toward the tape recorders most certainly had an impact on the results achieved by the project.

Security and Storage of
Recorded Tapes and Tape Recorders

The security of the tape recorder and the tapes was not originally contemplated as being a part of the project. However, during the course of the project two tape recorders were stolen from courts participating in the project. All participating courts were advised of these occurrences by the project manager and were requested to report on the measures taken to insure the security of the tape recorders and reels of tape. The courts reported the best procedure for the security of the recorders is to install the unit in the courtroom by permanently attaching it to the furniture, while still providing access to the machine for the monitor.

Four courts recommended that a storage cabinet be installed in the courtroom where the recorders and tapes could be stored each night. Some courts which did not even have locks on the entrance doors to the courtrooms and, as a result of the presence of the recorder, locks were installed.

Courts were also requested to report on the filing systems that were developed with the recorded tapes. The courts' responses reflected the differing filing systems utilized by courts for other court records. In some courts the filing systems developed varied according to the types of proceedings that were recorded. For example, two courts filed all civil proceedings separately from criminal proceedings, and at the same time they filed pleas and special hearings separately. Other courts relied upon a chronological filing system.

The project coordinators cited the following filing system as one that achieved satisfactory results:

File by category of proceeding, i.e., misdemeanor arraignments, with the date of the recording being noted as well as the department or division of the court, i.e., Department 2, Arraignments, and the number of the tape written on the tape box, i.e., Tape No. 70, and the reel. These same notations are cross-indexed to the

court's minute sheet or docket sheet because some courts made logging entries on the docket sheet. In those courts using logging sheets with notations, the sheets are also included with the recorded tape to facilitate the identification on replay of the desired portions of footage on the tape.

This filing system allows the court to identify those proceedings where there have been requests for replay or where there is a specified time limit for retaining the tapes.

In the smaller courts (three judges or less) there is a greater probability the court will hear a variety of types of proceedings during one session, making the above-mentioned system impractical. In those cases, the chronological filing system proved to be adequate.

There was no unanimity among the courts on a preferred filing system for tapes. The two systems mentioned above proved to be satisfactory for the limited number of tapes involved and for the experimental period. It is the opinion of the project manager that in the absence of comprehensive standards for filing systems in courts, this area will continue to develop on a court-by-court basis.

EVALUATION OF TAPE RECORDER

This section discusses the recording features of the tape unit used in this project. The judges were asked to evaluate the mechanical limitations of the audio units and recommend modifications of the units to make them more useful for the courtroom. The tape unit used in this project was the Sony Model T-277. No comparison was made of different types of recording devices.

The 18 courts participating in the project found the equipment was capable of satisfactorily recording the proceedings in the municipal courts. The four additional courts which were loaned the same equipment for demonstration purposes reached the same conclusion on the quality of recording.

A feature of the four-channel recorder is that it not only records every sound made in the courtroom, but each sound track can be isolated from the others and, on playback, listened to separately. For example, if a witness is testifying in a low voice, one listening in a noisy courtroom could not hear all the witness said. The tape recorder is recording all those sounds on four different tracks. The microphone being used by the witness is (usually) omnidirectional and it tends to record all sounds made in the vicinity of its placement. When the witness-microphone channel is played back by itself the witness' testimony comes in over the other sounds picked up by the other three microphones. Any dispute over what the witness said can be settled by playing back the witness-microphone channel.

A few courts using the tape recorder found it did not adequately record the proceedings. The reports from those courts show the inadequacy of the recordings was due, for the most part, to a failure to have the machine functioning properly. There were 11 incidents of mechanical failure reported out of a total of 2,126 recording hours during the

course of the study. Specifically, the principal problems with the equipment were batteries in the microphone that went dead, and microphone cables that were cut or pulled loose.

The evaluation reports indicated that when the machines are checked properly before and during operation they will pick up all sounds made in the courtroom and perform according to specifications. Since many courts were unfamiliar with recording devices and some courtroom personnel were reluctant to be actively involved in the project, the maintenance of the recorder was generally overlooked. However, the number of malfunctions due solely to mechanical failure was remarkably low in relation to the total recording hours for the project.

One frequently cited disadvantage of this tape unit is that the digital number counter on the recorder is not easily read except by those located directly in front of the recorder. It was suggested that the counter be made much larger or that it be separated from the recording unit and located on the clerk's desk to reduce the amount of interference with the established work pattern of the clerk.

Another complaint was that neither the recorder nor the tape gave warning when the tape was about to end. Several courts said that portions of the proceedings were not recorded because the tape would end and the judge or monitor would not be aware of it. The suggestion was made that a warning buzzer be built into the machine so that the monitor would be aware of the amount of time remaining on an unrecorded tape so that it could be changed.

The tapes used in the project were of three-hour duration. A few courts expressed a preference for a longer tape so as to avoid changing tapes during the course of proceedings. A longer duration tape would mean fewer tapes are required for storage and filing.

Three courts expressed dissatisfaction with the equipment because they found it difficult to locate a

particular portion of tape for playback purposes. It is suggested that this is not a problem of equipment, rather a problem relating to the amount of time devoted to monitoring the recorder. When monitors properly logged the proceedings there was less problem in locating and playing back any portion of the recorded proceeding. The clerk/monitor became more proficient at locating desired testimony on playback the more frequently he used the recorder.

Two courts said it was difficult to listen to tapes on playback because the voices were mixed. A solution to this problem would come with more training and use by the courtroom personnel, as well as rearranging the placement of the microphones. In addition, less movement of attorneys within the courtroom reduces the overlapping of recording problems. One court solved this problem by placing a sign on the counsel tables stating that "Counsel will remain seated while questioning the witness."

Proper pre-use preparation and checking of the recording equipment would also correct another problem cited by a few courts - dead batteries in the microphone. If the machines are checked regularly before use, as described in the manual, Appendix K, the dead microphones will be discovered and new batteries can be installed.

Another problem relating to microphones is the lack of an automatic sound level system in the recorder to adjust to the variable tone and volume of sound in the courtroom. Thus, if the recorder is set to pick up one speaker, it may not adequately pick up another. Adjustments can be made manually, but that would require extra effort by the monitor. An automatic sound level system would adjust the machine to pick up even the faintest speaker. To add this feature, it appears, would substantially increase the cost of the equipment.

Eight judges recommended a remote control switch installed on the bench. The reason for this recommendation is that it would allow the judge to control the recording

device when the clerk/monitor is preoccupied with other duties. Six judges opposed the idea because of a possible charge of abuse of discretion in deciding when the recording unit should operate.

The following is a summary of the judges' recommended modifications to the tape recorders.

a. None	2
b. More channels	4
c. Remote control switch on judge's bench	8
d. Cassette tapes	10
e. Automatically adjusting volume controls	7
f. Larger digital counter	12
g. Built-in time device	2
h. Other:	
Tapes should record for longer period	4
One microphone for jury box	4
One microphone for exhibit area	4
Voice activated microphones	2
Signal on recorder to indicate tape is running out	1
Control unit detached from recording unit and placed in clerk's desk	1
Dual controls for bailiff's bench and clerk's desk	1
Built-in time device to indicate when tape is running out	1
More sensitive microphones	1
Leave it to audio experts	1
Tone control	1
Automatic return capability	1
Replay buttons on front of recorder	1
One-hand operation capability	1

The tape recorder used in this project proved to be mechanically reliable. Technically, the recorder provides a good quality reproduction of the voice and is easy to operate. Only two complaints were made about the inability of the recorder to make an oral record of the court proceedings. The courts were optimistic that technological changes will continue to occur within the tape recording industry improving the quality of recording equipment.

SUMMARY

The use of tape recorders is a feasible way of recording municipal court proceedings. In order to achieve successful results with tape recorders the judge, as well as the administrative personnel in the court, must support the idea. This study illustrated that courts that want to achieve satisfactory results can do so with minimum expenditures and no increases in staff.

While the technology in the tape recording industry will undoubtedly continue to improve, the tape recorder used in this project provided an excellent reproduction of the spoken word in twenty-five different courtrooms. This tape unit also provided a high degree of mechanical reliability with only 11 reported instances of mechanical failure in over 2,126 hours of recording.

As demands for more complete municipal court records grow and the costs of court reporter services escalate, consideration should be given to using tape recorders for making court records.

SURVEY OF THE USE OF RECORDING DEVICES IN OTHER STATES

The initial stages of the study were devoted in part to surveying statutes, rules and present practices with regard to the use of recording devices in other states and determining the type of recorders most commonly used. The list of statutes and rules is found in the National Bureau of Standards' Study of Court Reporting Systems published in 1972. The information on the type of recorders used and their evaluation is derived from a questionnaire sent to each state and the District of Columbia. The questionnaire appears on page 31.

Twenty-two states and the District of Columbia have statutes or rules which specifically allow for some use of electronic recording devices in the courtroom (see chart on pp. 28-30). One state, Alaska, uses electronic recording devices exclusively to record court proceedings, and the electronic recordings constitute the official court record. Thirteen other states^{1/} and the District of Columbia have statutes or rules which allow the use of either a tape recorder or a stenographic reporter. These states generally leave the decision of which method to use to local option.

A third general group consists of states with statutes or rules which specifically state that a stenographic reporter may use electronic recording devices as a supplement to stenographic techniques. The reporter must take down testimony in shorthand but can have an electronic recorder taping the same testimony. These states are Illinois, Kentucky, Oklahoma, and Oregon. Finally, some of the states delegate the authority to determine the proper use of electronic recording devices to judicial or local authorities. These states are Connecticut, Indiana, Nevada and Tennessee.

^{1/} Arizona, Colorado, Georgia, Idaho, Louisiana, Michigan, Mississippi, North Carolina, Ohio, South Carolina, Vermont, Virginia and Washington.

It should be emphasized that the above groupings are only general in nature since the statutes and rules are subject to interpretation. In addition, in a number of states, including California, electronic recording devices are used in courtrooms without specific enabling legislation or rules.

ENABLING LEGISLATION AND RULES
FOR THE USE OF
ELECTRONIC RECORDING DEVICES IN STATE COURTS

<u>State</u>	<u>Statute or Rule</u>	
Alaska	Rules of Court Procedure	All superior courts will use electronic recording equipment to record court proceedings. Such electronic recordings shall constitute the official court record.
Arizona	Local Rule of Practice, Maricopa County, Rule 38-424	Any court may use a tape recorder or other recording device in lieu of a court reporter, unless either party requests a reporter.
Colorado	Rules of Civil Procedure, Rule 380	At the request of either party, or on the court's own initiative, a verbatim record will be made by "either electronic devices or stenographic means" as the judge chooses. The record produced by either will be official.
Connecticut	Connecticut General Statutes Annotated as amended through 1971, Rules 51-60 to 51-74	The record can be taken by "shorthand, shorthand writing machine, or by such mechanical means as may be approved by the Chief Justice of the Supreme Court."
Delaware*		
District of Columbia	D.C. Superior Court Rule 11-1727	The reporter can use sound recording in lieu of audio or manual mechanical systems.
Georgia	Code of Georgia Annotated as amended through 1970 Rules 24-3101 to 24-3106(a)	The reporter can buy "such recording machines and equipment as he thinks necessary to do his job in court."

Hawaii*

<u>State</u>	<u>Statute or Rule</u>	
Idaho	Idaho Codes as amended through 1970, Rule 11-1101	In the magistrates division of the district court a verbatim record shall be maintained either by electrical device or stenographic means, as the magistrate may direct.
Illinois	Illinois Statutes Annotated as amended through 1971, Rules 37-651 to 37-659	They (the reporters) may use an electronic instrument as a supplementary device.
Indiana	Rules of Trial Procedure	All courts may provide for taking the record by "mechanical devices."
Kentucky	Rules of Practice as amended through 1969, Rules 28-410 to 28-510	The reporter may use "a device for the recording of testimony" only as a backup to a functioning court reporter, unless the parties waive the reporter. The county pays for the machines.
Louisiana	West's Louisiana Statutes Annotated as amended through 1970, Rules 37-2551 to 37-2559	The Board shall in no way restrict the use of electronic equipment to certificate holders (reporters) hereunder in the performance of their duties.
Maryland*		
Michigan	Michigan Statutes Annotated as amended through 1971, Rules 27A-8601 to 27A-8635	The district court can use "recording devices approved by the Supreme Court" or by the court reporter. The first such machine can be bought at state expense.
Minnesota*		
Mississippi	Mississippi Code of 1942 Annotated as amended through 1970, Rules 1642 to 1645	The reporter may use "recording machines" as a help, and shall keep a detailed log of the case.
Nevada	Nevada Revised Statutes as amended through 1969 Rules 3-320 to 3-380	With approval of the board of county commissioners, the judge may install "sound recording equipment" to replace the reporter, and may appoint a special operator to operate it.
New Jersey*		
N. Carolina	General Statutes of North Carolina as amended through 1970	In the event that a court reporter is not available in the superior court, "electronic or other mechanical devices" may be provided by the administrative office at the judge's request.

MUNICIPAL COURT REPORTING STUDY

State	Statute or Rule	
Ohio	Supreme Court of Ohio, Rules of Superintendence	Records made by mechanical or electronic devices shall be transcribed and certified in the same manner provided for shorthand records and shall have the same effect.
Oklahoma	Oklahoma Statutes Annotated as amended through 1971, Rules 106-1 to 106-3	Electronic instruments may be used as supplementary devices, and the judge may order electronic recording if there are no objections.
Oregon	Oregon Revised Statutes as amended through 1969, Rules 8-310	He (the reporter) is to take accurate notes by hand or stenotype, and may supplement the notes by audio records taken on any mechanical, electrical or electronic device.
Rhode Island*		
S. Carolina	Code of Laws of South Carolina as amended through 1970	The reporter may record the proceedings onto discs or belts of a type which will preserve the record permanently . . . or by direct electronic recording supplemented by either shorthand or stenotype.
Tennessee	Tennessee Code Annotated as amended through 1970, Rules 40-2029 to 40-2043	The executive secretary can also buy recording equipment if the need exists, <u>i.e.</u> , if no reporter is available, and make rules to regulate it.
Vermont	Vermont Statutes Annotated as amended through 1970, Rule 4-743	A superior court judge, a district judge or a probate judge may enter an order for the installation of electronic sound recording equipment for the recording of any civil or criminal proceedings.
Virginia	Code of Virginia as amended through 1970, Rule 17-30.1-1	Each court of record can in all felony cases appoint a court reporter to report the proceedings, or to operate a mechanical or electronic device.
Washington	Civil Rules for Superior Court, Rule 80(b)	In any civil or criminal proceedings, electronic or mechanical recording devices may be used to record oral testimony.

* Delaware, Hawaii, Maryland, Minnesota, New Jersey, and Rhode Island use electronic recording devices but information on the rules or enabling legislation was incomplete.

- State of _____
- Are electronic recorders used in your courts: Yes___ No___
 - If yes, what type of recording system is used in your courts (system purchased most recently)?
 - Manufacturer and model number _____
 - Number of channels _____
 - Transcription capabilities (foot pedals, earphones?) Yes___ No___
 - Recording media (belt, reel, etc.) _____
 - Length of playing time _____
 - Playback for the court (built-in amplifier, speaker, etc.) Yes___ No___
 - Volume control for each channel Yes___ No___
 - Monitoring head (one or more seconds delay) Yes___ No___
 - Number and type of microphones employed _____
 - Cost per unit _____
 - Other features _____
 - How could this system be improved? _____
 - How do the courts rate the performance of the system:

Excellent___ Good___ Fair___ Poor___

Comments _____
 - When are recorders most generally used?

Instead of stenographic reporters Yes___ No___

By stenographic reporters as backup Yes___ No___

When stenographic reporters are not available Yes___ No___

For proceedings in which a reporter is not normally used Yes___ No___

Other: _____
 - Which courts most generally use recording devices? _____
 - Are the courts expanding their use of recording devices? Yes___ No___

Comments: _____
 - Other comments: _____

SURVEY OF THE CALIFORNIA COURTS
ON CURRENT RECORDING PRACTICES

To determine the current reporting practices in the California municipal courts and also the attitudes toward electronic recording devices, a mail survey of the 77 municipal courts was conducted (see page 39 for a copy of the questionnaire). The results of the questionnaire formed the basis on which the courts were selected for participation in the Court Reporting Study. In addition, this survey is thought to be the first attempt to summarize reporting practices in California municipal courts on a statewide basis.

The following is a summary of the responses to the questions asked in the survey. The survey was directed to the presiding or sole judge of each court. (All 77 municipal courts responded.)

The courts were first asked in which of the proceedings in municipal courts did the court "routinely provide a stenographic reporter."

The responses for felony proceedings were as follows:

	<u>Felony Arraignments</u>	<u>Felony Preliminaries</u>
Courts routinely providing reporters (% of total number of municipal courts)	44 (58)	77 (100)
Number of judges assigned to courts routinely providing reporters (% of total number of assigned judges)	266 (73)	365 (100)

All the responding courts indicated that they routinely provide reporters for felony preliminaries as required by Section 869 of the Penal Code. Fewer courts provide reporters for felony arraignments. Comparison of the percentages of number of courts providing reporters and the number of judges assigned to those courts would indicate that the larger courts tend to provide reporters for felony arraignments. This conclusion, however, is not entirely

justified or apparent as shall be seen when viewing the responses organized by size of courts. The Los Angeles Municipal Court with its 64 assigned judges and its practice of routinely providing reporters for all proceedings except small claims distorts the statewide statistics.

For misdemeanors, the percentage of courts routinely providing court reporters drops significantly.

	<u>Misdemeanor Arraignment</u>	<u>Misdemeanor Court Trial</u>	<u>Misdemeanor Jury Trial</u>
Courts routinely providing reporters (% of total number of municipal courts)	29 (38)	23 (30)	31 (41)
Number of judges assigned to courts routinely providing reporters (% of total number of assigned judges)	150 (41)	176 (48)	195 (53)

These figures indicate that reporters are present in only approximately 50 percent of the misdemeanor proceedings heard in municipal courts.

The percentages are lower still for traffic cases.

	<u>Traffic Arraignment</u>	<u>Traffic Court Trial</u>	<u>Traffic Jury Trial</u>
Courts routinely providing reporters (% of total number of municipal courts)	18 (24)	17 (22)	28 (37)
Number of judges assigned to courts routinely providing reporters (% of total number of assigned judges)	195 (44)	108 (30)	168 (46)

Although the percentages are lower, the same basic relationship between arraignments, court trials and jury trials in terms of the provision of reporters for misdemeanors generally exists also for traffic proceedings among the state's

municipal courts. Reporters generally are provided more often for jury trials than for arraignments or court trials.

For civil cases, 17 courts, or 22 percent of the total number of courts, with 67 or 18 percent of the total number of assigned judges, indicated that reporters are routinely provided for civil cases other than small claims. A number of other courts stated that reporters are utilized in civil cases at the discretion of the trial judge. Only two courts, Northern San Mateo and Santa Clara, indicated that reporters were routinely provided for small claims cases. As with other proceedings, a number of courts stated that reporters were made available if the parties requested them and assumed the expenses involved.

By dividing the courts into groups by number of assigned judges, it is possible to examine the general policies of municipal courts by court size.

We have divided the courts into four groups which can be roughly described as affinity groups by size. Examining the aggregate policies of these groups for traffic proceedings, it can be seen that size is not the determining factor in the frequency of use of reporters.

Number of assigned judges per court	Number of courts	Total number of assigned judges	REPORTERS ROUTINELY PROVIDED		
			Traffic arraignment (% of courts)	Traffic court trial (% of courts)	Traffic jury trial (% of courts)
1-3	45	92	12 (27)	12 (27)	18 (40)
4-10	27	154	3 (11)	4 (15)	8 (30)
11-25	3	55	2 (66)	0 (0)	1 (33)
25+	1	64	1 (100)	1 (100)	1 (100)

A higher percentage of the municipal courts with 1-3 assigned judges provide court reporters for traffic proceedings than the courts with 4-10 assigned judges.

While the number of courts with more than 11 judges is too few to draw any major conclusions, the frequency of the provision of reporters clearly does not rise for these courts. For the three courts with 11-25 judges (Oakland (14), San Diego (19) and San Francisco (22)), reporters are routinely provided in fewer instances than in the smaller courts. A similar pattern holds for misdemeanors.

Of the 77 municipal courts, 16 courts or 21 percent indicated that they routinely provide stenographic reporters for all municipal court proceedings, i.e., felony preliminaries, misdemeanor arraignment, misdemeanor court trial, misdemeanor jury trial, traffic arraignment, traffic court trial, traffic jury trial and civil actions excluding small claims.

Twenty-five of the municipal courts, or 33 percent, report that they routinely provide stenographic reporters for felony preliminaries only.^{1/} Comparing the distribution of courts which report all proceedings and those which provide reporters for felony preliminaries only, we have the following statistics:

Number of Assigned Judges	Number of Courts	Number of Courts Routinely Providing Reporters for all Proceedings	Number of Courts Providing Reporters for all Felony Preliminaries Only
1	15	3	6
2	13	4	4
3	17	5	5
4	13	2	7
5-9	11	1	2
10-14	4	0	1
15+	3	1	0

^{1/} The list of these courts, with the number of judges assigned, is as follows: Chico (1), Alhambra (3), Antelope (1), Burbank (2), Citrus (5), Culver (1), Downey (4), East Los Angeles (4), El Monte (3), Long Beach (7), Los Cerritos (3), Newhall (2), Pomona (3), San Antonio (3), Santa Anita (1), South Bay (4), South Gate (1), Whittier (4), Orange County Harbor (4), Corona (1), Desert (2), Riverside (4), San Bernardino (10), El Cajon (4), Santa Maria (2).

EMPLOYMENT OF COURT REPORTERS

The courts were queried about their practices of obtaining reporting services. They were asked if they employ reporters as permanent salaried employees and, if so, how many. Twenty-eight courts, or 37 percent of the state's municipal courts, indicated that they employ 163 court reporters as full-time salaried personnel. These courts have 216 assigned judges, so the courts average one reporter per 1.3 judge.

Some of the courts which have reporters as permanent salaried employees report that they hire additional reporters on a contractual basis.

NOTE: A contract means contracting with a firm to provide reporters as required on either a per diem or a contractual basis. Twelve courts employ reporters on both a per diem and a contractual basis; 31 courts hire individual reporters on a per diem basis only; and 5 courts hire reporters on a contractual basis only.

USE OF RECORDING DEVICES IN THE COURTROOM

The courts were asked if any departments in the court used recording devices in the courtrooms and, if so, what type of proceedings are recorded. Eight courts, or 10 percent of the total number of municipal courts, indicated they use recording devices in at least one department. The eight courts are Fresno, Bakersfield, Citrus, Downey, Los Cerritos, South Gate, San Diego, Lodi and Ventura County.

As to the type of proceedings recorded, Fresno reported that the use of the recorder was at the discretion of the trial judge. Each of the six departments has a recorder and, according to the clerk of the court, Mr. Everett Longstaff, they are generally utilized for all proceedings. Bakersfield reports that all proceedings except misdemeanor arraignments are recorded, although the court did not indicate in how many of its six departments.

Both the Citrus and Los Cerritos courts report that one department records all proceedings while the other

departments use recorders infrequently. The Downey Municipal Court records all proceedings, while South Gate records proceedings as the court determines.

Presiding Judge O. Robert O'Connor of the San Diego Municipal Court reports that they have:

three recording machines now in use in the Court; one department records everything except Small Claims cases, whether a court reporter is present or not; one department records everything except Small Claims cases and Preliminary Hearings on felony charges; one department records most Penal Code violation cases, but not Small Claims or Preliminary Hearings on felony charges.

In Lodi a Sony recorder is used only when a visiting judge is sitting on the bench. Ventura has used IBM and Soundsciber recorders to record all proceedings in the seven departments. Two other courts, Pasadena and Santa Monica, report that they have experimented with recorders in the past but found the machinery to be unsatisfactory.

PLANNED USE OF RECORDING DEVICES IN THE FUTURE

The courts were asked if they have definite plans to use recording devices in the future. Only one court, Oakland-Piedmont, in addition to the courts already using recording devices, indicated that they are actually considering purchasing and installing recorders in their departments.

INTEREST IN EXPERIMENTING WITH RECORDING DEVICES

Finally, the courts were asked if they were interested in experimenting with recording devices in the courtroom. Forty-eight courts, or 63 percent, including courts presently using recorders, indicated an interest in experimenting with recording devices. Excluding those courts which have or presently are experimenting with electronic recorders, 38 courts, or 51 percent of all municipal courts, expressed a desire to experiment with recorders in the courtroom.

JUDICIAL COUNCIL MUNICIPAL COURT REPORTING STUDY

USE OF COURT REPORTERS AND RECORDING DEVICES FOR
CRIMINAL PROCEEDINGS IN THE MUNICIPAL COURTS

OTHER COMMENTS

A few of the presiding or sole judges responding to the questions on the mail survey made other comments of interest regarding their reporting practices and/or the use of recording devices in municipal courtrooms. Judge Mary G. Rogan of the Burbank Municipal Court District noted that the court employed reporters on a per diem basis for all proceedings for about one year. This practice was discontinued as there were no transcripts ordered, and thus no justification for the expense. During this period all arraignments and trials were recorded, but not transcribed. Judge Rogan further states that the Burbank Municipal Court District would favor the employment of a recording device that would permit an audio replay for use of the court and would not necessarily require transcription.

Judge Roberta Butzbach, Presiding Judge of the Los Corritos Municipal Court, indicated that all proceedings are recorded in her department. She noted that playing back arraignments to an attorney who is preparing to file an affidavit by a defendant alleging that he was not informed of certain constitutional rights often results in the attorney deciding not to file the affidavit when he hears the defendant acknowledge those rights. According to Judge Butzbach, the recordings also are very helpful in preparing settled statements on appeal.

In Santa Cruz, Judge Donald O. May suggests that the real savings and improvements in court administration would be gained only if the appellate courts would take the tapes untranscribed.

1. Municipal Court _____.

2. In which of the following proceedings does your court routinely provide a stenographic reporter?

Felony arraignment	Yes	___	No	___
Felony preliminary	Yes	___	No	___
Misdemeanor arraignment	Yes	___	No	___
Misdemeanor court trial	Yes	___	No	___
Misdemeanor jury trial	Yes	___	No	___
Traffic arraignment	Yes	___	No	___
Traffic court trial	Yes	___	No	___
Traffic jury trial	Yes	___	No	___
Civil actions excluding small claims	Yes	___	No	___
Small claims	Yes	___	No	___

Comments: _____.

3. a) Does the court employ court reporters as permanent salaried employees? Yes ___ No ___ How many? ___

b) Does the court employ court reporters:

On a per diem basis Yes ___ No ___

Through a contract with a court reporting company Yes ___ No ___

Comments: _____.

4. a) Do any departments in your court use recording devices in the courtroom? Yes ___ No ___

b) If yes, what proceedings are recorded?

Felony arraignment	Yes	___	No	___
Felony preliminary	Yes	___	No	___
Misdemeanor arraignment	Yes	___	No	___
Misdemeanor court trial	Yes	___	No	___
Misdemeanor jury trial	Yes	___	No	___
Traffic arraignment	Yes	___	No	___
Traffic court trial	Yes	___	No	___
Traffic jury trial	Yes	___	No	___
Civil actions excluding small claims	Yes	___	No	___
Small claims	Yes	___	No	___

c) What type recorder(s) is used? _____.

5. Does your court have any plans to use recording devices in proceedings not reported by a stenographic reporter? Yes ___ No ___

Comments: _____.

6. Is your court interested in experimenting with recording devices for recording proceedings presently not reported by a stenographic reporter? Yes ___ No ___

Comments: _____.

APPENDIX C

SELECTION OF COURTS FOR PARTICIPATION
IN THE COURT REPORTING PROJECT

In order to determine which courts would participate in the Court Reporting Study, a list of criteria was developed by the staff. The criteria utilized are as follows:

INTEREST OF THE COURT IN EXPERIMENTING WITH ELECTRONIC
RECORDING DEVICES

All the municipal courts were asked in the mail survey if they were interested in experimenting with recording devices for recording proceedings presently not reported by a stenographic reporter. Those courts responding affirmatively were included for further consideration.

REPORTING OF PROCEEDINGS

Those courts which indicated in the mail survey that proceedings in their departments are generally not reported by a stenographic reporter were also included for further consideration. Courts presently providing court reporters for all or almost all proceedings were eliminated because the basic objective of the study was to experiment with recorders in proceedings where no form of reporting is presently utilized. The fewer proceedings presently reported in the local court, the greater is the range of possibility for experimentation.

USE OF RECORDING DEVICES IN THE COURTROOM

Those courts presently utilizing recording devices in the courtroom were eliminated. If electronic recording devices prove to be an effective tool in the courtroom, a desired outcome of this study is to have the participating courts outfit the remaining departments of their court with recorders at their own expense. Courts presently utilizing recorders are aware of the capabilities of recording devices and, therefore, the potential multiplier effect of the project would be less in these courts.

NUMBER OF AUTHORIZED JUDGES FOR COURTS

Again, to achieve the greatest possible exposure of the use of recording devices, it was determined that the

courts with the highest number of judges should be selected for participation. In order to insure a complete cross-section of courts by number of judges, however, it was also determined that a sample of one- and two-judge courts should be included in the list of the participating courts.

GEOGRAPHIC DISTRIBUTION

To insure the broadest possible diffusion of information about the court reporting project throughout the state, it was determined that the courts should be chosen to insure representation of as many geographic areas of the state as possible.

WILLINGNESS OF A COURT TO CONTRIBUTE FINANCIAL SUPPORT
AND/OR TIME OF COURT PERSONNEL TO THE PROJECT

Only those courts willing to provide at least the time of administrative court personnel to work as project coordinators were considered for participation.

After evaluating the courts based on the above criteria, a ranking for participation in the project was established. The 25 recorders were distributed among the courts selected for participation with more than one complete system being allocated to courts with more than five judges.

An alternate list was compiled of courts which had a lower priority rating but which would be invited to participate if any courts on the original list elected not to participate in the project. Three courts elected not to participate and were replaced with courts from the list of alternative courts. The final list of participating courts is as follows:

COURTS SELECTED FOR PARTICIPATION
IN THE MUNICIPAL COURT REPORTING STUDY

No. of Judges in the Courts	Southern California		Northern California	
	Court	No. of Recorders	Court	No. of Recorders
5 or more judges	No. Orange (8)	2	Oakland (14)	3
	Long Beach (7)	2		
	Compton (5)	2		
4 judges	South Bay	1	Berkeley	1
	Orange County Harbor	1		
	El Cajon	1		
3 judges	Alhambra	1	Modesto	1
	Inglewood	1	Fremont	1
	South Orange	1	Monterey- Carmel	3
2 judges			Vallejo	1
			Fairfield- Suisun	1
1 judge			Chico	1
			Visalia	1

In addition to the systems assigned to local courts two complete systems were retained by the Administrative Office of the Courts in the offices of the Court Reporting Project. These systems were used for demonstration

purposes by the project manager in four nonparticipating courts. The recorders were used at the various conferences and workshops sponsored by the AOC to demonstrate the capabilities and uses of recorders.

THE JUDICIAL COUNCIL OF THE STATE OF CALIFORNIA

4200 STATE BUILDING, 485 GOLDEN GATE AVENUE
SAN FRANCISCO, CALIFORNIA 94102

ADMINISTRATIVE OFFICE OF THE COURTS

TO: Presiding Judge or Sole Judge of Each Municipal Court
FROM: Administrative Office of the Courts
Donald Rosenberg, Attorney
DATE: October 1, 1971
SUBJECT: Use of court reporters and recording devices
in municipal courts

The Administrative Office of the Courts has been requested to make a study concerning the use of court reporters and recording devices in criminal proceedings in the municipal courts. To obtain the necessary information we are enclosing a short questionnaire. Please complete the questionnaire and return it to this office not later than October 16, 1971. Your cooperation in this study is very much appreciated.

Enclosure

Special Judicial Council Study

Use of Court Reporters and Recording Devices
for Criminal Proceedings in the Municipal Courts

Name of Court

Please check the appropriate boxes for each category of proceeding, indicating the extent of use of court reporters and/or recording devices in your court. Whenever "Frequently" or "Rarely" is checked, please specify on the attached sheet the policy which governs the use of reporters or recording devices.

	Felony arraignment	Felony preliminary	Misdemeanor arraignment	Misdemeanor court trial	Misdemeanor jury trial	Traffic arraignment	Traffic court trial	Traffic jury trial
Court Reporter	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Routinely.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Frequently.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rarely.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Never.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Recording device	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Routinely.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Frequently.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rarely.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Never.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

With regard to each category in which you replied that a reporter or recording device is used "Frequently" or "Rarely," please give the reason for your response, e.g., reporter (or recorder) used on request of prosecutor or defendant, used by some but not all of the judges of the court, etc.

Please add any other comments you may have concerning use of court reporters or recording devices.

Signature of Judge

THE JUDICIAL COUNCIL OF CALIFORNIA
STATE BUILDING, SAN FRANCISCO 94102

ADMINISTRATIVE OFFICE OF THE COURTS

TO: Presiding Judge of Each Municipal Court
FROM: Administrative Office of the Courts
Ralph N. Kleps, Director
DATE: January 5, 1973
SUBJECT: Use of Court Reporters and Recording Devices
in Municipal Courts

The U.S. Supreme Court has ruled that defendants in all criminal cases, even misdemeanors involving only fines and penalties, are entitled to "record[s] of sufficient completeness" to present their claims to an appellate court. (Mayer v. City of Chicago (1971) 404 U.S. 189, 30 L.Ed.2d 372.)

The employment of court reporters for all municipal court proceedings would be expensive and difficult. The California Council on Criminal Justice has therefore allocated funds to the Administrative Office of the Courts to study the feasibility of using electronic recording devices in the municipal courts in proceedings not otherwise reported. As a preliminary step in that study, we are updating a survey made in 1971 of the use of recorders and reporters in municipal courts.

To obtain the necessary information, we are asking for your cooperation in completing a short questionnaire.

Please complete the attached questionnaire and return it to this office at your earliest convenience. Your cooperation is appreciated.

The enclosed questionnaire should be returned to:

Robert W. Page, Jr., Project Manager
Municipal Court Reporting Study
Administrative Office of the Courts
4200 State Building
San Francisco, California 94102
(415) 557-3203

Attachment

JUDICIAL COUNCIL MUNICIPAL COURT REPORTING STUDY

USE OF COURT REPORTERS AND RECORDING DEVICES FOR CRIMINAL PROCEEDINGS IN THE MUNICIPAL COURTS

1. Municipal Court _____.

2. In which of the following proceedings does your court routinely provide a stenographic reporter?

Felony arraignment	Yes	___	No	___
Felony preliminary	Yes	___	No	___
Misdemeanor arraignment	Yes	___	No	___
Misdemeanor court trial	Yes	___	No	___
Misdemeanor jury trial	Yes	___	No	___
Traffic arraignment	Yes	___	No	___
Traffic court trial	Yes	___	No	___
Traffic jury trial	Yes	___	No	___
Civil actions excluding small claims	Yes	___	No	___
Small claims	Yes	___	No	___

Comments: _____.

3. a) Does the court employ court reporters as permanent salaried employees? Yes ___ No ___ How many? ___

b) Does the court employ court reporters:

On a per diem basis Yes ___ No ___

Through a contract with a court reporting company Yes ___ No ___

Comments: _____.

4. a) Do any departments in your court use recording devices in the courtroom? Yes ___ No ___

b) If yes, what proceedings are recorded?

Felony arraignment	Yes	___	No	___
Felony preliminary	Yes	___	No	___
Misdemeanor arraignment	Yes	___	No	___
Misdemeanor court trial	Yes	___	No	___
Misdemeanor jury trial	Yes	___	No	___
Traffic arraignment	Yes	___	No	___
Traffic court trial	Yes	___	No	___
Traffic jury trial	Yes	___	No	___
Civil actions excluding small claims	Yes	___	No	___
Small claims	Yes	___	No	___

c) What type recorder(s) is used? _____.

5. Does your court have any plans to use recording devices in proceedings not reported by a stenographic reporter? Yes ___ No ___

Comments: _____.

6. Is your court interested in experimenting with recording devices for recording proceedings presently not reported by a stenographic reporter? Yes ___ No ___

Comments: _____.

January 5, 1973

CHIEF JUSTICE
DONALD R. WRIGHT
CHAIRMAN



JUDICIAL COUNCIL OF CALIFORNIA

ADMINISTRATIVE OFFICE OF THE COURTS

4200 STATE BUILDING, SAN FRANCISCO 94102
217 W. First St., Room 1001, Los Angeles 90012
109 Library and Courts Bldg., Sacramento 95814

RALPH N. KLEPS
DIRECTOR
RICHARD A. FRANK
DEPUTY DIRECTOR

December 22, 1972

MUNICIPAL COURT REPORTING STUDY

GENERAL SPECIFICATIONS FOR ELECTRONIC RECORDING DEVICES FOR USE IN COURTROOMS

PURPOSE: This federally funded project involves the purchase of approximately 30 recording devices to be used for recording proceedings not presently reported in selected municipal courts in California.

REQUIREMENTS (per unit):
One to four channel capability;
Two-hour minimum recording time.

ACCESSORY REQUIREMENTS (per unit):
Three unidirectional and one omnidirectional microphones;
One headphone set;
Channel mixer box for multichannel machines;
One loudspeaker (optional).

UNIT COST: \$1,000 per unit maximum, including accessories.

OTHER REQUIREMENTS:
One year guarantee of service by vendor for normal use of machines;
Installation of machines in selected courts (optional).

UNITS REQUIRED PER MANUFACTURER:
Between 10 and 30 machines will be purchased from the selected manufacturers.

LATEST ACCEPTABLE DELIVERY DATE: February 28, 1973.

REQUIRED INFORMATION:
Brochures on available machinery, unit costs for 10, 20 and 30 machines, delivery date, availability for demonstration of machinery.

CONTACT: Robert W. Page, Jr.
Project Manager
Municipal Court Reporting Study
Administrative Office of the Courts
4200 State Building
San Francisco, California 94102
(415) 557-3203

GENERAL SPECIFICATIONS OF RECORDING SYSTEM
PURCHASED FOR THE PROJECT

Based on the survey of the courts throughout the United States and the municipal courts in California, the project staff developed a set of general specifications for the equipment to be purchased for the Municipal Court Project. The information gathered in the two major surveys was supplemented by a review of literature on the use of electronic recording devices, personal visits to California courts using recording devices, and conversations with manufacturers of recording systems.

Considerable time was also spent working with the staff of the Sacramento Superior Court Reporting Study, specifically Mr. James Arnold, Executive Officer of the Superior Court of Sacramento and the Project Co-Director, and Ms. Nancy Meadows, the Project Supervisor. The objectives of the Sacramento study are different from those of the Municipal Court Reporting Study, *i.e.* comparison of stenographic reporters and electronic recording devices for the purpose of preparing transcripts instead of alternatives to a stenographic report in municipal courts. The Sacramento study has tested and used numerous types of electronic recording equipment. Their insights into the requirements for a basic system proved invaluable.

No unanimity exists regarding the proper number of recording channels a recorder should have for use in a courtroom. Some courts are still using single-channel recorders such as the Soundscriber and Edison recorders used in courts in Alaska, Michigan and Indiana. More recently the trend has been toward multichannel recorders such as the Dictaphone Model 061, Court Memory System, which is used in Alaska and has six channels.

For the purposes of the Municipal Court Reporting Project, a four-channeled system which allows for utilizing one or two of the channels only, was determined to be the

most advantageous. Four-channel capacity allows for placement of microphones at each of the basic courtroom locations, *i.e.*, judge's bench, witness stand, and plaintiff and defendant counsels' tables.

On the other hand, testing of single- and dual-channeled recorders indicated that these systems were inadequate in situations of deciphering simultaneous speech. The staff determined the system should have four channels to insure adequate recording of the proceedings and also provide flexibility in terms of future use of the recorders.

THE SYSTEM SHOULD HAVE AT LEAST A TWO-HOUR UNINTERRUPTED RECORDING TIME

The length of recording time of the system is vital since, with the exception of the expensive piggyback recording systems, *i.e.*, two recorders with an overlap recording period at the end of each tape, the proceedings in the courtroom will have to be halted any time the tape has to be changed. A two-hour minimum recording time limit allows the monitor sufficient leeway to plan tape changes at recesses and also provides considerable straight recording time if necessary.

THE SYSTEM SHOULD BE EQUIPPED WITH ONE OMNIDIRECTIONAL MICROPHONE AND THREE UNIDIRECTIONAL MICROPHONES

Selection of proper microphones is essential to obtaining high quality recordings. The three unidirectional microphones, which as the name implies, record from a limited field, are recommended for placement on the judge's bench and at each counsel table. These microphones focus on the sounds of the principals involved and block out extraneous noise.

The omnidirectional microphone, on the other hand, was placed at the witness stand and recorded sound from 360°, allowing dialogues between a witness and an attorney at the stand to be recorded.

THE SYSTEM SHOULD HAVE INDIVIDUAL CHANNEL VOLUME CONTROLS FOR PLAYBACK

In order to separate and identify noises in simultaneous speech situations, it is essential that the recording system have individual volume controls for each channel so that the four recorded tracks are not mixed into one channel.

THE SYSTEM SHOULD HAVE A LOUDSPEAKER

Although the main purpose of the recorder is for review of completed proceedings, a number of courts have used recorders as a means to review testimony while a proceeding is in process. For this purpose, a loudspeaker with sufficient amplification is essential.

THE SYSTEM WITH ACCESSORIES SHOULD NOT EXCEED \$1,000 PER UNIT

Cost is the ultimate arbiter between a decision to implement a project or not. The staff of the project believed that any system costing in excess of \$1,000 would be too expensive for a local court to purchase.

The above general specifications for the system were summarized and submitted to the State Office of Procurement for a statewide invitation to design and bid on a system which would fulfill the above general specifications plus minor mechanical specifications added by the State Office of Procurement.

DESCRIPTION OF SYSTEM SELECTED

The Sony Quadradial Stereo Taperecorder TC-277-4 was selected, after the bidding process, to be used in the project. The specifications of this tape recording unit are standard with this model with the following modifications:

One four-channel playback head was added to meet or exceed the stated frequency response. The

purpose of this playback head is to give the user the ability to monitor the tape by headphones while recording is taking place so he/she can verify that recording is actually occurring. The four-channel outputs from the four-channel playback head were mixed to one channel and then amplified to provide a nominal output of 100 milliwatts of audio to a transcription type headset (Sony DE-35). The 100 milliwatt amplifier with adjustable volume control and associated power supply was mounted within the tape recorder and meets frequency response and distortion specifications.

Four illuminated push button switches, noninterlocking, were added whose functions were to select any combination of audio channels one through four in the regular playback mode, followed by a single channel of amplification with output that is fed to an external monitor speaker. The regular playback mode referred to in this paragraph refers to the output taken from the Sony record/playback head and associated electronics. A four-channel mixer was added with an external master gain control.

Amplification to the monitor speaker was provided by means of a 40 DB solid-state amplifier, including AC power supply, mounted within the tape recorder. The amplifier has a frequency response and signal-to-noise ratio better than the tape recorder response and signal-to-noise and has distortion of less than 1 percent at the rated output of 3 watts rms.

In addition to these modifications, the supplier altered each recorder by adjusting the following buttons in the locked positions on all units to avoid any possible

tampering or accidental changing of buttons and to give uniformity to the evaluation of the tape recordings:

Four-channel switch (No recording was done on two channels.)

Microphone-line (recording input is locked on microphone)

Front and rear switch (F + R switch is locked in to assure recording is being done on all four channels)

1 7/8 speed (indicator of recording speed)

Each tape unit was equipped with four microphones, one headset and a speaker. Three microphone cords were 25 feet long and one cord was 30 feet long.

TRAINING AND INSTRUCTION OF COURT PERSONNEL IN PARTICIPATING COURTS

The installation process, as described in the previous section, required that the judge, project coordinator and monitoring clerk participate in the instructions on operation of the tape recorders. A manual was drafted by the project manager for training and instructional use by the participating courts. (See Appendix J.) In addition to the manual, the project manager and a sales representative of the supplier of the tape recorders were present at each installation to train and instruct the court personnel on the operation of the recorder.

Clear judicial support for the project contributed favorably to the training and instruction of support personnel. In those courts where judicial support was not readily apparent to the court personnel, the problems accompanying the installation were magnified. The attitudes of the court personnel clearly had an impact on the training sessions and those attitudes in turn were influenced by the judges' attitudes toward the project.

The measure of the impact that attitude had on the training is difficult to ascertain. It is apparent, however, that those court support personnel who were initially negative about the use of the tape recorder did not benefit from the training as much as those who did not have a negative attitude. For example, in those courts where the personnel were negative during the installation process, the problems encountered during the initial stages of the project period were not resolved until much later than in courts where no attitudinal problem was encountered. Resolution of most of the problems could have been reached by application of knowledge obtained from training given by the project director and coordinators or by the manual.

One court was fortunate in having designated as a project coordinator a person of exceptional ability who

had a positive disposition toward the use of tape recorders. The project coordinator was the chief clerk/court administrator and thus was in a position to have the respect and attention of the personnel to be trained. The project manager informed the court personnel of the following items: the purpose of the project, what implementation of the project would mean to all parties concerned, the objections to tape recorders, and what might be the outcome of the project. The coordinator also called in the local court reporters and discussed the project with them. These procedures gave the coordinator the opportunity to dispel apprehension among the court employees about the project.

The coordinator was aware that some clerks were hesitant to operate any type of machine, including tape recorders. He demonstrated the operation of the recorders to the personnel to be trained. Gradually, the clerk had each person practice operating the recorders under his supervision. This practice, he felt, further dispelled negative attitudes held by the prospective monitors. Because of the training efforts by the project coordinator in this particular court, the experimentation phase of the project went smoothly and all monitors developed a positive attitude toward the use of tape recorders.

The importance of training of court personnel cannot be overstated. Courts considering the installation of tape recorders should review the Alaska manuals for tape recording and adapt them to their own court's practices and needs. The initial success of use of the tape recorder is dependent upon such a training program.

JUDICIAL COUNCIL OF CALIFORNIA

CCCJ Project Grant #1241

MONTHLY EVALUATION FORM
FOR PROJECT COORDINATOR

1. How many hours during the month was the recorder utilized in recording court proceedings?
2. Please indicate the number of days (any part of a day counts as one day) during this evaluation period that the recorder was utilized in the court proceedings listed below.

Felony arraignment	
Felony preliminary	
Misdemeanor arraignment	
Misdemeanor court trial	
Misdemeanor jury trial	
Traffic arraignment	
Traffic court trial	
Traffic jury trial	
Selected traffic violations	
Civil actions (excluding small claims)	
Small claims	
Pretrial conference	
Other (specify)	

3. How many hours (estimate if exact information not available) were the tape recorders used during this month?
4. What have been the benefits to the court of using the tape recorder during this period?
5. What administrative or legal problems have been caused directly or indirectly by the use of the recorder in the courts?

6. Please fill out the form below according to the following instructions for each section.

- A. This section indicates the number of requests made for replay of tapes of each of the proceedings listed and by whom the request was made. Place the number of requests for each type of proceeding in the column for the person who made the request.
- B. This section indicates when the requests were made and by whom. Place the number of requests in the column for the person who made the request and in the corresponding time box.
- C. This section indicates the subject matter requested to be heard on replay, the number of times requests were made for that general subject matter to be replayed and by whom. Place the number of the times each subject matter was requested to be heard on replay in the corresponding column.

	Judge	Atty. Prosec.	Atty. Plaintiff	Atty. Defense	Pro Per
A. Felony arraignment					
Felony preliminary					
Misdemeanor arraignment					
Misdemeanor court trial					
Misdemeanor jury trial					
Traffic arraignment					
Traffic court trial					
Traffic jury trial					
Selected traffic violations					
Civil actions (excluding small claims)					
Small claims					
Pretrial conference					
Other (specify)					
B. Pretrial					
Post pretrial					
During trial					
After trial					
C. Rulings					
Witness testimony					
Admission of rights					
Instructions					
Sentencing					
Other (specify)					

7. List any other uses made of the recorder during this period, e.g., conferences in judge's chambers, speeches, etc.

8. List difficulties encountered in the storing, filing and retrieving of tapes.

9. List suggestions for developing a filing system for the tapes.

10. General comments on the progress of the project, specific criticisms, and suggestions.

Period of Evaluation

Project Coordinator

Mail to: William E. Davis Project Manager 4200 State Building San Francisco, CA. 94102

JUDICIAL COUNCIL OF CALIFORNIA

CCCJ Project Grant #1241

MONTHLY EVALUATION FORM
FOR TAPE RECORDER MONITOR

1. List any equipment problems encountered in the recording process.
2. List any administrative problems encountered in the recording process. For example, clerk was unfamiliar with operating procedures during monitoring the trial, insufficient supply of tapes, insufficient supply of logging sheets, etc.
3. List any functional problems encountered in the recording process. For example, clerk on playback was unable to find the requested testimony, some comments were inaudible or were not recorded.
4. List actions taken to correct aforementioned problems, and the degree of success of those actions.

5. What actions were taken to improve the utility of the recording devices to the court?

6. Suggestions for improving the utilization of the tape recorders in the municipal courts.

Period of Evaluation

Signature of Monitor

Mail to: William E. Davis
Project Manager
4200 State Building
San Francisco, CA. 94102

ORAL EVALUATION QUESTIONNAIRE FOR
JUDGES PARTICIPATING IN CCCJ
STUDY # 1241: ALTERNATIVES TO
COURT REPORTERS IN MUNICIPAL COURTS

1. Did the tape recorder satisfactorily create a record of proceedings that were recorded:

Yes

No

Not certain

How did you determine if a satisfactory record had been made? By listening By hearing reports from clerks By other means Did not make a determination

2. Were there any judicial proceedings in which the tape recorder was more useful than in others? Yes No

If "yes," please state which kind of proceeding, what was your reason? If "no," please state the facts on which you base your opinion.

3. In which proceeding or proceedings was the tape recorder unable to make a satisfactory record? _____

In your judgment, what was the major cause(s) for the unsatisfactory record?

4. What were the limitations of the machines? (Please check all applicable boxes.)

a. Mechanical failures

List _____

b. Mixed voices - unable to discern the speaker

c. Difficulty in locating on playback the desired testimony

d. No direct judicial control over the machine

e. Poor quality recording

f. Other (specify)

5. Based upon your experience, which of the following modifications would you like to see on the tape recorders designed for courtroom use?

a. None

b. More channels

c. Remote control on-off switch at judge's desk

d. Cassette tapes

e. Automatically adjusting volume controls

f. Larger digital counter

g. Built-in time device to indicate the time of day

h. Other (specify)

ORAL QUESTIONNAIRE FOR PROJECT COORDINATORS
IN CCCJ PROJECT #1241

6. Has your court found any other uses for the tape recorders?
If yes, please state what were those uses.
7. Did the manual offer useful information on operational procedures? Yes No Did not read
8. In what areas is the manual deficient?
9. What information do you recommend be included in the manual?
10. What training and preparation is necessary for court personnel to learn to use the tape recorders?
11. Should the clerk or the bailiff be given responsibility of running the tape recorder? If clerk is the answer, why did he select the clerk? If bailiff is the answer, why did he select the bailiff?
12. Do you recommend a third person to monitor the proceedings?
Yes No
If yes, who should it be? Why?
If no, are you satisfied with the system as it is presently organized?
13. Do you think this tape recorder can make a satisfactory record for the municipal court? Yes No
Please state the reasons for your opinion.

1. Who is monitoring the recorder?
 Courtroom Clerk
 Marshal/Bailiff
 Judge
 Other (specify)
State reasons why the monitor was selected.
2. Who do you recommend be assigned the monitoring duties on a full-time basis and for what reasons?
 Courtroom Clerk
 Marshal/Bailiff
 Judge
 Other (specify)
3. How often do you test the equipment before beginning a recording session?
 Every day
 Alternate days
 Once a week
 Other (specify)

4. Please describe your method of logging the proceedings.

5. Please list any problems encountered in the logging of proceedings and the actions taken to correct those problems.

6. Where are the recorded tapes filed?

7. Please describe the filing system used for the tapes. List any problems encountered in the filing system and actions taken to correct those problems.

8. What security methods are being utilized for custody of the recorded tapes?

9. What other uses have you found for the recording equipment?

10. Did the tape recorder satisfactorily create a record of the proceedings where it was utilized?

- Yes
- No
- Do not know

11. How did you determine if a satisfactory record had been made? Please state the reasons for your opinion.

- by listening
- by hearing reports from clerks
- other means (specify)
- did not make a determination

12. Was the recorder more useful in certain proceedings than others? Yes No

Specify which proceedings and the reasons for that determination.

13. Was the manual useful for orienting and training the monitors? Yes No Do not know

If yes, please state reasons for your opinion.

If no, please state reasons for your opinion.

14. What information do you recommend be included in the manual?

Specify the purpose for including the recommended information.

For information purposes?

For training purposes?

Other (specify)

15a. Did the attitude of the monitor affect the success of the operation of the recorder?

Yes

No

b. Please explain your answer.

16. What are your recommendations for training court personnel to operate tape recorders?

FINAL EVALUATION QUESTIONNAIRE
 FOR JUDGES PARTICIPATING IN
 CCCJ STUDY #1241: ALTERNATIVES
 TO COURT REPORTERS IN MUNICIPAL COURTS

1. In your opinion did the tape recorder interfere in any way with the orderly process of the courtroom?

Yes No

If yes, please state the kind or kinds of disruptions.

What actions, if any, were taken to prevent future disruptions?

2. Did you attempt to make a complete record of the proceedings by making clarifying statements when nonverbal responses were made by either counsel or witnesses? Yes No

If yes, please give example.

3. What precautions, if any, were taken to prevent possible recording of attorney-client communications?

4. Was it necessary to have special microphone placements for particular types of proceedings? Yes No

If yes, please complete the following:

Type of Proceeding	Special Placement	Reason for Placement

5. Have there been instances of a discrepancy between the courtroom clerk's minutes and the tape recordings?

Yes No If yes, what kinds of discrepancies occurred, in what types of proceedings, and what were the reasons for the discrepancies?

6. How many recordings have you evaluated to determine if a sufficient record had been made? Number:

Of that number, how many recordings proved to be a sufficient record? Number:

7. If the tape recorder made a satisfactory or sufficient record of the proceedings where utilized, please state the reason(s) for your opinion.

8. If the tape recorder did not make a satisfactory or sufficient record of the proceedings where utilized, please state the reason(s) why it did not do so.

9. By what method did you make a determination of the sufficiency of the tape recorded record?

By listening.

By hearing reports from clerks.

By hearing reports from attorneys.

By hearing reports from bailiffs.

Other (please specify).

10. Do you recommend that the tape recorder be incorporated as an official record-making instrument for the municipal court? Yes No Uncertain
Please explain the reason(s) for your answer.

11. If the municipal court were to rely on the tape recorder in addition to the courtroom clerk to make the official court record, what foreseeable legal problems, if any, could arise with such a system?

11a. If you foresee any legal problems, what actions can be taken to avoid those problems?

12. In your experience with the tape recorder, have the records been more useful in particular types of proceedings?

Yes No Uncertain

If yes, what type(s) of proceedings?

13. Additional comments:

FINAL EVALUATION QUESTIONNAIRE
FOR PROJECT COORDINATORS PARTICIPATING IN
CCCJ STUDY #1241: ALTERNATIVES TO
COURT REPORTERS IN MUNICIPAL COURTS

1. Did the tape recorder interfere with the orderly process of the courtroom? Yes No

If yes, please state the kind or kinds of interferences caused by the presence of the tape recorder. What actions, if any, were taken to eliminate the interferences?

(Note: If space provided for this or other answers is inadequate, please use a separate sheet of paper.)

2. Who is monitoring the recorder? _____
(Bailiff, Clerk, etc.)

Please state why that person was selected.

DATE: _____

JUDGE: _____

6. Of all the cases tape recorded, how many settled statements were prepared without the use of the tape recordings? _____
How many settled statements were prepared with the use of the tape recordings? _____
7. Based on your experience to date, describe the system you would recommend for filing recorded tapes?
8. What procedures would you recommend for use in certifying the recorded tapes as accurately reflecting the court proceedings? (For example, should playbacks be done only by court personnel to preclude erasures, etc.?) Please give reasons for your recommendations.
9. What security measures would you recommend be taken for the tape recorder and the recorded tapes? Please state the reasons for your recommendations.

10. What additional court facilities, if any, would be necessary if the tape recorder were officially incorporated as a part of the official court recordmaking process? Please state the reasons for your opinion.
11. Based on the cost of this tape unit (\$850.00), what other costs necessarily would be incurred if the tape recorder were incorporated as a part of the official court record (i.e., storage costs for recorded tape, related equipment, six months supply of tapes, etc.)?
12. Additional comments:

Court: _____ Coordinator: _____



JUDICIAL COUNCIL OF CALIFORNIA

ADMINISTRATIVE OFFICE OF THE COURTS

4200 STATE BUILDING, SAN FRANCISCO 94102

217 W. First St., Room 1001, Los Angeles 90012

109 Library and Courts Bldg., Sacramento 95814

RALPH N. KLEPS
DIRECTORRICHARD A. FRANK
DEPUTY DIRECTOR

August 2, 1973

This manual contains suggested approaches to some of the problems that may be encountered during the evaluation period of this project. The manual may possibly go into more detail than is necessary or desirable. It is offered as a guide only and each court should develop the method best suited to its operations.

JUDICIAL COUNCIL OF CALIFORNIA

Manual for Electronic Recording

(Staff Draft)

August 2, 1973

Not for Release

MANUAL FOR ELECTRONIC RECORDING
FOR USE IN ALTERNATIVE TO COURT REPORTERS
IN MUNICIPAL COURTS PROJECT

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PART I. Problem Background

The U.S. Supreme Court has ruled unanimously that defendants in all criminal cases, even misdemeanors, are entitled to "records of sufficient completeness" to present their claims to an appellate court (Mayer v. City of Chicago (U.S. Supreme Court 1971) 30 L.Ed.2d 372). The current practice appears to be that reporters are used routinely in municipal and justice courts only for the reporting of felony preliminary hearings. Reporting of other criminal proceedings varies substantially from court to court. Roughly one-quarter of the municipal courts with one-third of the judges (including Los Angeles Municipal Court) routinely use reporters in all criminal (including traffic) proceedings. Excluding the large Los Angeles Municipal Court, however, only about 18 percent of the municipal court judges routinely have reporters in their courtrooms for all criminal matters. More than 50 percent of the judges rarely or never have a reporter for criminal cases. There is some selected use of reporters for particular classes of matters, such as arraignments or more serious misdemeanor trials.

In justice courts there is presently little or no use of reporters except in felony preliminary hearings.

The employment of stenographic reporters for recording all municipal court criminal proceedings would not be feasible because of the cost involved and the nonavailability of an adequate number of court reporters. While the need for verbatim transcripts of municipal court proceedings, other than in felony preliminaries, is minimal the availability of an electronic recording of all criminal proceedings would be of advantage. It could serve the judges and attorneys as a reference source as to what actually transpired. It would also be useful in preparing settled statements on appeal under Rule 184 of the California Rules of Court. Such a recording would also seem to satisfy the U.S. Supreme Court's ruling on the need for adequate records in all criminal proceedings.

Recording equipment is now used routinely in all proceedings in only two municipal courts. In neither court, however, are the recordings used for the preparation of transcripts.

PART II. Project Objectives

A. The primary objective of the project is to study the feasibility of using electronic recording devices for all municipal court proceedings that are not reported by stenographic reporters. It is not intended that electronic recordings be used as a basis for the preparation of verbatim transcripts.

B. Ascertain the various uses that might be served by the electronic recording of all proceedings.

C. Ascertain the advantages and disadvantages of the various types of electronic equipment that are available and suitable for municipal courtroom recording.

D. Development of standards regarding storage, retrieval, retention and security of the recorded proceedings.

E. The study will include an inventory of the present use of shorthand reporters in municipal courts.

PART III. Recording Procedures

The clerk designated to serve as monitor for the taped proceedings has several important responsibilities to the court. The clerk should refer to the following checklist in preparing the equipment to record:

A. Check to see that the recorder is properly located away from extreme heat or moisture.

B. Check the electrical outlet to see that the machine is connected to the outlet plug.

C. Check the individual input wires from each microphone into the recording unit.

D. Check that each microphone is properly placed.

E. Check the ventilation grill airflow.

F. Check to see that the heads of the recorder are clean before beginning to record a session. A suggested rule to follow is that cleaning is required after ten (10) hours of recording. To properly clean the recorder, use the supplied head cleaning ribbon or a soft cloth for cleaning to prevent accidental damage to the head.

G. Check the built-in reel locks.

H. Make sure there is no slack in the threaded tape. If the tape is threaded improperly, the recorder will not operate.

I. Set the system select switch to 4 CHANNEL.

J. Be sure to place the operation lever in the STOP position when the set is not in use.

K. Push the playback buttons located on the left side of the recorder to check the individual channel playback.

L. Check headphones by listening to playback of prior recordings.

M. Check to see that the machine properly records by pushing down the two record buttons and turning the "I" lever to the right. Each channel should be checked for proper recording.

N. Adjust the volume for recording from each channel.

O. Check GND screw for ground wire.

P. At the beginning of each new recording day, check the tape counter to see that it has the same number as at the close of the preceding day.

In addition to preparing the equipment, the clerk will necessarily have to check the tape to be used in the recording. If the tape is partially used from a prior recording, the clerk should listen to the end of the proceedings previously recorded and crosscheck the tape register with the log entry to confirm the location of the end of the recorded ~~portion of the tape.~~

If the playback is found to be in good order, the tape is advanced to the last number logged. Lever "I" is then turned to the record position, and the deputy clerk should talk into each microphone, briefly stating the court and the

counsel and the judge in locating the desired testimony on playback.

When time allows, the clerk could make notations of the more significant aspects of the proceedings. For example, the following list is provided as a guideline reference to be followed by the clerk. When the events listed below occur, the clerk could note the number on the digital counter and the corresponding letter, where appropriate, in the description column. If the clerk has time, a more detailed notation may be made.

- a. Judge's opening remarks.
- b. Prosecution's opening remarks.
- c. Defendant's opening remarks.
- d. Identification of each witness by spelling his surname.
- e. Note the highlights of witness testimony.
- f. Identify all nonverbal materials introduced into evidence, such as written documents, photographs, etc.
- g. Note each time a recess or adjournment is taken.
- h. Note the beginning and ending of direct examination, cross-examination and recross-examination.
- i. Note the objections made by counsel.
- j. Note the comments by judge on rulings of evidence and procedure.

It is recommended that the monitor clerk prearrange with the judge for the following contingencies:

- a. Prompting people to speak up.
- b. Securing the spelling of surnames.
- c. Indicating inaudible happenings.
- d. Indication to the judge of mechanical malfunctions.
- e. Instruction to attorneys to be aware of possible violations of attorney-client privilege or violations of privileged attorney-attorney communications.
- f. Indication to the judge of completion of the tape reel to allow a brief recess to be called.

PART V. Removing, Filing and Retrieving Tapes

A. REMOVING THE TAPE FROM THE RECORDER.

The monitoring clerk is responsible for removing the tape at the end of each day to protect against any possibility of tampering or deterioration. The tape reels should be removed simultaneously, thus leaving the tape in its relative position on each reel at the end of the day's proceedings. This procedure makes it unnecessary to rewind the tape and to search for the place of the last logging number when recording is resumed on the next day of court.

B. SECURITY OF TAPES.

The removed tape should be immediately placed into one of the clerk's cabinets and locked for safekeeping until the next scheduled court session.

C. PROCEDURES RELATING TO COMPLETED ROLLS OF TAPE.

Upon completion of a roll of tape, the clerk will signal the judge of this fact. Then, during the recess that will be called, the clerk will rewind the completed tape. If the recess time is too brief to allow the clerk to completely rewind the tape, the completed tape should be kept in a secure place until time allows for its rewinding.

D. STORAGE OF COMPLETED TAPE.

The clerk should number each tape, and then compile a list of all the cases recorded on that particular tape. The list should also include the date and the clerk's initials.

In addition, it is recommended that a sheet of paper be provided, with appropriate columns for the clerk to enter the number of the completed tape, the date and the hour at which it is stored, and the clerk's initials. Whenever the tape is removed, an entry should be made of the number of the tape, the date, hour it was removed and who is requesting the tape.

PART VI. Problems to be Anticipated

A. IDENTIFICATION OF SPEAKERS

The clerk monitoring the hearings will be responsible for identifying each speaker. The clerk will identify the speaker through use of the log sheet.

B. NONVERBAL ACTIONS

The clerk will make note of nonverbal acts. Such descriptions would include the following examples:

1. The defense attorney, Mr. X, is pointing at the blackboard in reference to his question to the witness.
2. The witness pointed at the defendant when he was asked a question by the district attorney.
3. Counsel moves up to bench.
4. Introduction of exhibits.
5. Drawing of sketches on a blackboard, etc.

C. THE INCLUSION OF WRITTEN STATEMENTS INTO THE RECORD

Upon the submission of any written document into evidence, the clerk monitor should identify the document through the log sheet.

D. SEPARATION OF CHANNELS AND ADJUSTMENT OF SOUND

Immediately before the proceedings begin, the clerk monitor should inspect the machinery, all the electrical connections and the individual microphones. The clerk should record through each microphone and give the date, the name of the court, and identify the channel, e.g., prosecutor's microphone. The clerk should then play back each channel to check it for quality of sound, and if necessary make the proper adjustments for good recording. The clerk monitor will have to adjust the volume each time a speaker with a substantially different voice level uses a microphone. In addition, the clerk will have to set volume control so that only one microphone is picking up the sounds.

E. THE ABILITY OF THE MACHINE TO PLAY BACK TESTIMONY

This is an important function that the clerk must familiarize himself or herself with as much as possible. Achieving an adequate skill level with the recorder will come with

practice with the machine. The clerks are urged to have practice sessions using the recorder to locate prior testimony.

F. TESTING EQUIPMENT DURING A RECESS

The clerk should repeat the operational tests on the checklist each time before the court reconvenes. This procedure assures the monitor that the playback, as well as the recording, is functioning properly.

G. OBSERVING PROPER RECORDING

The clerk, through the use of earphones, can check the recording. At all times the clerk monitor must be assured of continued progress of the recording by the following indications:

1. Pilot is constantly burning.
2. Volume indicator is regularly flashing during operation.

Whenever the clerk suspects that the unit is not recording properly, the trial judge should be informed by appropriate sign or communication.

H. REMOVAL OF COMPLETED TAPE FROM RECORDER

Before removal of completed tape, it must be rewound onto its original spool. The tape should be placed into a container and the cases that were recorded on that tape should be identified by number and title.

5.3 EACH VENDOR-SUPPLIED SYSTEM EQUIPMENT ITEM SHALL MEET ALL ITEMS OF THIS SPECIFICATION OVER AN AMBIENT TEMPERATURE RANGE 0°C TO +45°C.

5.4 EACH VENDOR-SUPPLIED SYSTEM EQUIPMENT ITEM SHALL MEET ALL ITEMS OF THIS SPECIFICATION WHEN SUBJECTED TO RELATIVE HUMIDITIES UP TO 95%.

6. TAPE RECORDER

6.1 THE REFERENCED BRAND IS SONY MODEL 277-4.

6.2 MINIMUM PERFORMANCE CHARACTERISTICS AND FEATURES ARE:

6.2.1 COMPLETE FOUR-CHANNEL RECORD AND PLAYBACK.

6.2.2 THREE TAPE SPEEDS: 7-1/2, 3-3/4, AND 1-7/8 IPS. RECORDER MUST RUN A MINIMUM OF TWO HOURS AT 1-7/8 IPS.

6.2.3 FOUR ILLUMINATED VU METERS.

6.2.4 BUILT-IN REEL LOCKS.

6.2.5 INDEPENDENT FOUR-CHANNEL LEVEL CONTROLS.

6.2.6 RECORD EQUALIZATION SELECTOR SWITCH.

6.2.7 FOUR-DIGIT TAPE COUNTER.

6.2.8 MICROPHONE AND AUXILIARY INPUTS.

6.2.9 VIBRATION FREE MOTOR(S).

6.2.10 RECORD INTERLOCK.

6.2.11 AUTOMATIC TAPE LIMITERS.

6.2.12 AUTOMATIC SHUT OFF.

6.2.13 VERTICAL-HORIZONTAL OPERATION.

6.2.14 REEL SIZE: 7".

6.2.15 SUPPLIED WITH SOLID-STATE ELECTRONICS

6.2.16 WEIGHT OF THE RECORDER MUST NOT EXCEED 35 POUNDS IN ORDER TO BE EASILY TRANSPORTABLE.

CONTINUED

1 OF 2

6.2.17 FREQUENCY RESPONSE:

6.2.17.1 WITH STANDARD TAPE, 50 HZ TO 16 KHZ ± 3 DB @ 7-1/2 IPS

6.2.17.2 WITH SONY SLH 180 TAPE, 50 HZ TO 18 KHZ ± 3 DB @
7-1/2 IPS.

6.2.18 SIGNAL-TO-NOISE RATIO:

6.2.18.1 STANDARD TAPE, 52 DB.

6.2.18.2 SLH 180 TAPE, 55 DB.

6.2.19 WOW AND FLUTTER:

6.2.19.1 .12% AT 7-1/2 IPS

6.2.19.2 .15% AT 3-3/4 IPS

6.2.19.3 .2% AT 1-7/8 IPS

6.3 THE REFERENCED TAPE RECORDER UNITS ARE TO BE SUPPLIED COMPLETE WITH THE FOLLOWING MODIFICATIONS.

6.3.1 ADD ONE FOUR-CHANNEL PLAYBACK HEAD THAT WILL MEET OR EXCEED THE ABOVE STATED FREQUENCY RESPONSE. THE PURPOSE OF THIS PLAYBACK HEAD IS TO GIVE THE USER THE ABILITY TO MONITOR THE TAPE BY HEADPHONES WHILE RECORDING IS TAKING PLACE SO HE CAN VERIFY THAT RECORDING IS ACTUALLY OCCURRING.

6.3.2 THE FOUR-CHANNEL OUTPUTS FROM THE FOUR-CHANNEL PLAYBACK HEAD WILL THEN BE MIXED TO ONE CHANNEL AND THEN AMPLIFIED TO PROVIDE A NOMINAL OUTPUT OF 100 MILLIWATTS OF AUDIO TO A TRANSCRIPTION TYPE HEADSET (SONY DE-35). THE 100 MILLIWATT AMPLIFIER WITH ADJUSTABLE VOLUME CONTROL AND ASSOCIATED POWER SUPPLY WILL ALSO BE MOUNTED WITHIN THE TAPE RECORDER AND SHALL MEET FREQUENCY RESPONSE AND DISTORTION SPECIFICATIONS AS STATED IN SECTION 6.3.5.

- 6.3.3 ADD FOUR ILLUMINATED PUSH BUTTON SWITCHES, NONINTERLOCKING, WHOSE FUNCTIONS WILL BE TO SELECT ANY COMBINATION OF AUDIO CHANNELS 1 THROUGH 4 IN THE REGULAR PLAYBACK MODE, FOLLOWED BY A SINGLE CHANNEL OF AMPLIFICATION WHOSE OUTPUT IS THEN FED TO AN EXTERNAL MONITOR SPEAKER. THE REGULAR PLAYBACK MODE REFERRED TO IN THIS PARAGRAPH REFERS TO THE OUTPUT TAKEN FROM THE SONY RECORD/PLAYBACK HEAD AND ASSOCIATED ELECTRONICS.
- 6.3.4 IN CONJUNCTION WITH THE PREVIOUS PARAGRAPH 6.3.3 ADD A FOUR-CHANNEL MIXER WHICH SHALL BE PROVIDED WITH AN EXTERNAL MASTER GAIN CONTROL.
- 6.3.5 PROVIDE AMPLIFICATION TO THE MONITOR SPEAKER BY MEANS OF A 40 DB SOLID-STATE AMPLIFIER, INCLUDING AC POWER SUPPLY, TO BE MOUNTED WITHIN THE TAPE RECORDER. THE AMPLIFIER SHALL HAVE A FREQUENCY RESPONSE AND SIGNAL-TO-NOISE RATIO BETTER THAN THE TAPE RECORDER RESPONSE AND SIGNAL-TO-NOISE AND SHALL HAVE DISTORTION OF LESS THAN 1% AT THE RATED OUTPUT OF 3 WATTS RMS.
- 6.3.6 EACH BIDDER SHALL SPECIFY THE MAKE AND MODEL NUMBER OF THE ACCESSORY EQUIPMENT REQUIRED WITH HIS TAPE RECORDER BID PLUS THE LIST PRICES OF THIS EQUIPMENT. IN ADDITION, THE BIDDER MUST SHOW BY DRAWINGS, ETC., WHERE HE PROPOSES TO INSTALL THE ADDITIONAL ELECTRONIC EQUIPMENT AS REQUIRED BY THE MODIFICATION. NO MODIFICATIONS TO THE FRONT PANEL OF THE TAPE RECORDER WILL BE PERMITTED. ALL ADDED PUSH BUTTON SWITCHES, CONTROLS, ETC., ARE TO BE LOCATED ON THE SIDE PANEL(S) OF EACH TAPE RECORDER UNIT.

7. UNIDIRECTIONAL MICROPHONES (3 PER SYSTEM)

7.1 MINIMUM PERFORMANCE CHARACTERISTICS:

7.1.1 FREQUENCY RESPONSE, 50 - 12000 HZ \pm 3 DB, EIA SENSITIVITY 57 DBM,
250 OHM IMPEDANCE WITH FET AND INTERNAL BATTERY

7.2 THE REFERENCED UNIT IS SONY MODEL ECM 18 UNIDIRECTIONAL ELECTRET
CONDENSER MICROPHONE SUPPLIED WITH MICROPHONE MOUNT AND APPROX. 25 FEET OF
MICROPHONE CABLE. APPROXIMATE WEIGHT 5 OUNCES.

8. OMNIDIRECTIONAL MICROPHONE (1 PER SYSTEM)

8.1 MINIMUM PERFORMANCE CHARACTERISTICS:

8.2.1 FREQUENCY RESPONSE, 50 - 13000 HZ, EIA SENSITIVITY 58 DBM,
600 OHM IMPEDANCE WITH FET AND INTERNAL BATTERY.

8.2 THE REFERENCED UNIT IS SONY MODEL ECM16 ELECTRET CONDENSER MICROPHONE
SUPPLIED WITH MICROPHONE MOUNT AND APPROX. 25 FEET OF MICROPHONE CABLE.
APPROXIMATE WEIGHT 1 OUNCE.

9. SPEAKER (1 PER SYSTEM)

9.1 RADIO SHACK REALISTIC MODEL SOLO 5, FULL RANGE, 5-INCH Cased SPEAKER
WITH WALNUT FINISH OR EQUAL, MINIMUM RATING 3 WATTS RMS. APPROXIMATE
DIMENSIONS 8" X 10" X 5-1/2".

10. HEADPHONES (1 PER SYSTEM)

10.1 SONY TRANSCRIPTION HEADSET MODEL DE 35 OR EQUAL.

11. EQUIPMENT ACCEPTANCE

11.1 PRIOR TO DELIVERY OF THE RECORDERS THE SUCCESSFUL BIDDER MUST
DELIVER W/IN 14 DAYS ARO, ONE FULLY MODIFIED RECORDER SYSTEM
TO THE LOCATION LISTED BELOW SO THAT A CHECK MAY BE MADE TO
DETERMINE IF THE RECORDER HAS BEEN SUPPLIED AND MODIFIED IN
ACCORDANCE WITH THE SPECIFICATIONS. BIDDER WILL BE NOTIFIED
IN WRITING AS TO THE ACCEPTABILITY OF THE UNIT OFFERED.

END