

United States General Accounting Office

GAO

Report to the Chairman, Subcommittee on
Civil and Constitutional Rights,
Committee on the Judiciary, House of
Representatives



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February 1987

FBI VOICE PRIVACY

Cost, Status, and Future Direction



RELEASED

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**Information Management and
Technology Division****B-226295**

February 27, 1987

The Honorable Don Edwards
Chairman, Subcommittee on Civil
and Constitutional Rights
Committee on the Judiciary
House of Representatives

Dear Mr. Chairman:

In response to your August 13, 1986, request (see appendix I), we are evaluating the Federal Bureau of Investigation's (FBI) voice privacy program. The FBI initiated this nationwide program in 1982 to install new communications technology that would protect its radio messages from interception by criminal elements, foreign intelligence activities, the news media, and the general public. The program was expanded in August 1985, when the Attorney General gave the FBI lead responsibility for integrating into one system, the individual voice privacy systems being developed separately by the FBI, Drug Enforcement Agency (DEA), and United States Marshals Service (USMS). You asked us to evaluate the FBI's voice privacy program, focusing on the cost of the program and the length of time it will take to complete, the design and procurement of the new equipment, the decision to develop the integrated voice privacy system, and any other pertinent issues.

During a November 1986 meeting with your office, we agreed to prepare this interim report (1) to respond to your questions about the cost and status of the FBI's voice privacy program and (2) to assist the Subcommittee's fiscal year 1988 FBI authorization hearings. Appendix II describes our assignment objectives, scope, and methodology. We plan to continue our review of the design and procurement of equipment for the FBI's internal voice privacy program; the funding procedures for the program; and the justification and approach for the expanded, integrated voice privacy system.

**History of the Voice
Privacy Program**

Prior to 1982, the FBI relied on independent, unsecure radio communications systems to coordinate the routine and investigative activities of its field agents. These basic radio systems generally consisted of three main components: (1) radio units, which were either hand-held or mobile (that is, located in vehicles); (2) consoles and base stations, which received and transmitted radio communications to remote locations; and

(3) repeaters, which extended the communications range of the radio system.

Between 1979 and 1981, the FBI researched technical approaches to achieve voice privacy and concluded that digital voice privacy (DVP) technology—where voice signals are coded before being transmitted over radio frequencies—offered excellent security and high reliability. In January 1982, the FBI initiated a 5-year program to acquire and implement DVP radio systems. The Bureau also decided to use microwave equipment for long-distance radio communications.

Since 1982, the FBI has awarded four contracts to Motorola, Inc., to design, develop, and install DVP radio and microwave equipment in 36 of the Bureau's 59 field offices. Appendixes III through VII contain more detailed information on these contracts.

Cost and Status of the Voice Privacy Program

The FBI's voice privacy program has experienced substantial increases in estimated and actual costs, and is significantly behind the original completion schedule. FBI cost estimates for implementing DVP systems in all 59 field offices grew steadily from \$79.3 million in January 1982, to \$204.4 million in January 1984—over a 150-percent increase in 2 years. Even though it formally calculated the \$204.4 million estimate over 3 years ago, the FBI cited this amount as the official program cost estimate in its June 1986 responses to your Subcommittee's questions for the fiscal year 1987 FBI authorization hearings. According to the FBI, the \$204.4 million estimate includes all costs associated with implementing the DVP radio system nationwide, such as system design and installation, training, test equipment, spare parts, towers, buildings, and miscellaneous costs.

The FBI's \$204.4 million estimate for the nationwide voice privacy program appears to be unrealistic. As of February 2, 1987, the FBI has obligated nearly \$177 million for the 36 field offices currently under contract, but has accepted DVP systems as complete in only three of these offices. This \$177 million figure includes original contract award amounts totaling about \$147 million, and additional costs of about \$29 million for 77 contract modifications executed through February 2, 1987. It does not include the cost of leasing sites for radio and microwave equipment, constructing or modifying buildings and some towers to accommodate new equipment, or maintaining the new DVP system. We requested this cost data from the FBI, but it was not available to us until February 18, 1987, too late for us to analyze and address in this report.

In revising its early cost estimates, the FBI attributed the substantial increases to the following incorrect assumptions:

- **Field office needs.** According to the FBI, early cost estimates were based on a one-for-one replacement of the unsecure radio system, which was designed in the 1960s. The FBI did not anticipate field office needs for expanded geographic coverage of criminal activities beyond the range of the existing radio system, improved communications features (for example, additional radio channels to assist joint law enforcement operations), and more equipment for the growing number of agents and vehicles.
- **Field office differences.** The FBI assumed that the costs of the Los Angeles system—the first field office to receive DVP radio equipment—could be directly projected nationwide, without considering the impact of different field office needs and varying terrain.
- **Standard equipment.** While the FBI's early cost estimates anticipated using off-the-shelf DVP equipment, the Bureau later found that standard equipment did not meet its needs for additional communications channels and other special features. Consequently, the Motorola equipment supplied through the contracts is specifically designed and manufactured for the FBI.
- **Technology limitations.** The FBI recognized in its 1979 to 1981 research that the communications range of the DVP technology was less than the range of the old, unsecure system, but it did not consider the impact of this reduction. To compensate for the range loss, the FBI had to increase the number of base stations, repeaters, and microwave equipment by 80 to 100 percent.

In addition to the substantial increases in estimated and actual costs, the FBI's voice privacy program is also behind its original contract completion milestones. For example, on the first Motorola contract, the FBI accepted the system as complete in April 1985—over a year after the scheduled completion date of January 1984, as is still shown in the contract. Today, however, equipment installation has not been completed at four radio sites, and an FBI procurement official told us that the contract is still open. The second Motorola contract is 2 years behind its original completion date, with accepted DVP systems in only two of the five field offices covered by this contract. The third Motorola contract has passed its completion date of September 1986, but 6 of the 17 field offices covered by this contract are only midway through installation. Even the fourth and most recent Motorola contract, which is intended to provide DVP systems to 13 FBI field offices by September 1987, is behind schedule. Although the original completion dates on all of the Motorola

contracts have expired or are no longer realistic, the FBI has not formally revised the contracts.

Contract documentation cites the following reasons for these delays and the \$29 million increase for modifications to the Motorola contracts: (1) extensive re-engineering of individual radio system components so that they effectively work together as a complete system; (2) unanticipated needs for DVP equipment to cover special events and operations (for example, the 1984 World's Fair and the Organized Crime Drug Enforcement Task Force, respectively) in field offices that were outside the contract scope; (3) difficulties in acquiring appropriate sites for radio and microwave equipment; and (4) limitations in obtaining scarce radio and microwave frequencies, as well as resolving interference problems with other users of these frequencies.

The FBI's handling of some basic management processes has also affected the program's cost and progress. Management processes—such as planning, identifying specific requirements, and analyzing the cost and benefits of alternative configurations and procurement approaches—are important in ensuring that projects will effectively achieve their objectives, within reasonable cost and time estimates. Although FBI officials recognized that the voice privacy project was an ambitious undertaking, they told us that they did not prepare a long-range plan. We also did not find any evidence that the FBI has formally identified and analyzed alternatives to its radio and microwave configuration or procurement approach.

Future Direction of the Voice Privacy Project

Since the Attorney General approved the integrated voice privacy initiative in August 1985, the FBI has taken the lead in developing this system to meet its nationwide radio communications needs, as well as those of DEA and USMS. The FBI has not fully determined the cost of the integrated system, but has estimated a completion date of 1992. The FBI has a two-part study of the integrated voice privacy system under way. Part 1 will identify the costs associated with several different configurations for the integrated voice privacy system in the Northeast region of the country. Part 2 will analyze the need for communications channels in New York City. FBI officials expect to receive the final, two-part report by March 31, 1987.

Even though it has not fully analyzed the cost and alternatives for developing an integrated system, the FBI has accelerated implementation of the integrated voice privacy initiative nationwide. The FBI has

already been procuring equipment through the existing Motorola contracts for a joint FBI and DEA integrated system test in Boston. In March 1987, the FBI plans to issue a Request for Proposals for an integrated FBI-DEA-USMS system in 10 of the 23 FBI field offices that are not yet covered by the existing Motorola contracts. The FBI has not determined when it will contract for integrated systems in the remaining 13 field offices.

Conclusions and Questions for Consideration

Even though our review has not been completed, we found that the FBI has encountered significant delays and cost overruns in its voice privacy program. These delays and overruns strongly suggest that the FBI did not adequately analyze its needs before contracting for and acquiring its DVP system, and the original cost and time estimates presented to your Subcommittee were significantly understated.

A similar situation could occur with the integrated voice privacy project. Nearly a year and a half after initiating this project, the FBI does not have firm cost and time estimates. Yet, the Bureau is already buying equipment for an integrated system test under its existing Motorola contracts and is planning to release a Request for Proposals in March 1987, for integrated systems in 10 new locations. In view of these procurements and the problems the FBI encountered in attempting to install its own system, your Subcommittee may want to pursue with the FBI the following issues before deciding to further authorize the integrated voice privacy system:

- What is the justification for the integrated voice privacy system, and has a long-range plan been prepared?
- What analyses have been performed by the FBI (1) to determine its specific DVP requirements, as well as those of DEA and USMS; and (2) to evaluate various alternatives for meeting these requirements?
- Given the cost overruns and delays associated with the original DVP program, how will the FBI ensure that cost estimates for the integrated system are reliable and that this system will be completed by 1992?

As requested, we did not obtain official agency comments on this report. As arranged with your office, unless you publicly announce this report's contents earlier, we plan no further distribution of the report until 30 days from its issue date. At that time, we will send copies to the Chairmen, Senate and House Committees on Appropriations, House Committee on Government Operations, and Senate Committee on

Governmental Affairs. We will also send copies to interested parties and make copies available to others upon request.

Sincerely yours,

A handwritten signature in black ink that reads "Warren G. Reed". The signature is written in a cursive style with a large, prominent "R" and "E" in "Reed".

Warren G. Reed
Director

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Abbreviations

DEA	Drug Enforcement Agency
DVP	Digital Voice Privacy
FBI	Federal Bureau of Investigation
GAO	General Accounting Office
USMS	United States Marshals Service

Request Letter

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August 13, 1986

The Honorable Charles A. Bowsher
Comptroller General
U.S. General Accounting Office
441 G Street, N.W.
Washington, D.C.

Dear Mr. Bowsher:

Since 1981, the Federal Bureau of Investigation has received \$72 million for installation of a voice privacy system to protect its radio communications from interception. In 1983, FBI Director William H. Webster testified that "the current budgetary schedule [for the voice privacy project] has been formulated to complete the procurement of all equipment and installation services during fiscal years 1984 and 1985."

As of this June, only one of the Bureau's 55 field offices had a complete voice privacy system. Five major offices were near completion, and equipment was on order for 17 others. The projected cost for the effort has been increased from \$132 million to \$204 million. A recent decision to adopt a joint radio system for the FBI, the Drug Enforcement Administration, and the Marshals Service will require modification of the equipment that has already been installed.

I would like to request, on behalf of the Subcommittee, that the GAO audit the Bureau's voice privacy project. You should focus on the cost of the project, the length of time it will take to complete, the design and procurement of the equipment, and the decision, apparently late in the project, to develop a joint system for the FBI, DEA, and Marshals Service, as well as any other pertinent issues you might identify.

Appendix I
Request Letter

The Honorable Charles A. Bowsher
August 13, 1986
Page Two

I am attaching an April 7, 1986 letter to Director Webster, posing questions about the voice privacy project, and Director Webster's June 9, 1986 responses. If you have questions about this request, you may contact James Dempsey of the Subcommittee staff at 226-7680.

Thank you for your attention to this matter.

Sincerely,



Don Edwards
Chairman
Subcommittee on Civil and
Constitutional Rights

DE:jdw

Enclosure

Objectives, Scope, and Methodology

Our objectives were to review the FBI's internal voice privacy program; prepare an interim report on program history, cost and status, and future direction; and develop questions for use in the fiscal year 1988 FBI authorization hearings. We performed our work between August 1986 and February 1987.

To obtain cost and status information on the FBI's internal voice privacy program, we (1) reviewed FBI contract files; (2) analyzed original and projected cost and milestone data, and researched possible reasons for the variances; and (3) interviewed FBI officials at FBI headquarters in Washington, D.C.; the Engineering Research Facility in Newington, Virginia; and the Los Angeles field office in Los Angeles, California. We also held initial meetings with Department of Justice, DEA, and USMS officials to obtain background information on the integrated voice privacy initiative.

Our review of the internal voice privacy program was limited, to some extent, by the condition of contract files. At the time of our review, the FBI contract staff could not find one of the Motorola contracts or two contract modifications. In addition, the staff did not adequately maintain complete and accurate contract files. We found instances of mathematical errors and missing data (for example, dates and signatures) on contract modifications, requiring us to use other correspondence (for example, FBI and Motorola letters and milestone charts) to fill in information gaps.

We did not specifically evaluate the procurement process, contract method, or funding and invoicing procedures for the FBI's voice privacy program. We also did not evaluate the integrated voice privacy initiative, beyond obtaining general background data. We plan to address these and other issues in our follow-on work.

We discussed the information obtained during our review with FBI officials, and have included their comments where appropriate. As requested, we did not obtain official agency comments on a draft of this report. With this exception, we conducted our review in accordance with generally accepted government auditing standards.

Overview of FBI Digital Voice Privacy Contracts

Table III.1 provides an overview of the FBI's four Motorola contracts for DVP radio systems. For ease of reference, we have identified the contracts by the names that Motorola has assigned them: Allison, Eierman, Gload, and Kepner. Totals are provided where applicable.

We requested that the FBI provide us with projections for (1) the cost to complete each of the contracts and (2) the time needed to fully implement all outstanding contract tasks. However, this information was not available as of February 2, 1987, and was not included in the table.

Table III.1: FBI's Voice Privacy Contracts

Dollars in millions					
Contract	Allison J-FBI-82-129	Eierman J-FBI-83-162	Gload J-FBI-84-142	Kepner J-FBI-85-150	Totals
Number of Field Offices	1 ^a	5	17	13	36
Award Date	9/21/82	9/29/83	9/27/84	9/25/85	
Original Contract Completion Date	1/01/84	2/02/85	9/01/86	9/01/87	
Status	Open ^b	Open	Open	Open	
Original Contract Price	\$13.1	\$32.7	\$51.4	\$50.0	\$147.2
Cost of Modifications	\$3.7	\$6.8	\$16.3	\$2.5	\$29.3
Revised Contract Price	\$16.8	\$39.5	\$67.7	\$52.5	\$176.5
Number of Modifications	12	21	30	14	77

^aThe Allison contract covered one field office and 19 FBI off-site surveillance squads.

^bEven though the FBI has accepted the Los Angeles system as fully operational, radio equipment has not been installed at four sites.

Allison Digital Voice Privacy Contract (J-FBI-82-129)

The FBI awarded contract J-FBI-82-129 (the "Allison" contract) to Motorola, Inc., on September 21, 1982, for the firm fixed price of \$13,129,486. Of this amount, \$7,252,589 was funded at the time of contract award. The original estimated contract completion date was January 1, 1984.

Contract Scope

Under the Allison contract, Motorola was to perform two key tasks: (1) design, manufacture, and install a new voice privacy radio and microwave system in the Los Angeles office and (2) supply new voice privacy equipment for 19 field offices that have off-site surveillance squads. Motorola had project management and system responsibility for the Los Angeles system (Task 1). However, since the FBI considered the location and work of the off-site surveillance squads as sensitive, the Bureau assumed responsibility for the equipment installation defined in Task 2.¹

The contract also contained an options clause that allowed the FBI to procure additional quantities of equipment at the prices negotiated in the original contract.

Contract Modifications

As of February 2, 1987, the FBI had executed 12 contract modifications, totaling \$3,701,397 (see table IV.1). These modifications covered system changes resulting from the FBI's need for recently developed aircraft equipment, unanticipated needs for DVP coverage of special events and operations, and frequency problems. Additional information on the more significant contract modifications follows.

¹FBI officials told us that the number of off-site surveillance squads has increased to 33, and that equipment for these squads has been procured through the Motorola contracts.

Appendix IV
Allison Digital Voice Privacy Contract
(J-FBI-82-129)

Table IV.1: Allison Contract Modifications

Modification Number	Date	Description	Cost
1	9/29/82	Provide additional contract funding for Tasks 1 and 2.	\$112,258
2	10/18/82	Fully fund Task 2, DVP equipment for 19 surveillance squads.	-0-
3	11/01/82	Designate contracting officer's technical representative.	-0-
4	12/03/82	Reconfigure Los Angeles DVP system.	\$98,987
5	2/02/83	Provide equipment for increased surveillance squad needs.	\$2,937,326
6	5/16/83	Resurvey 5 microwave sites.	\$85,000
7	9/23/83	Provide aircraft radios for surveillance squads.	\$223,425
8	12/09/83	Change microwave frequencies and install tower at Rodman Mountain site, Los Angeles field office.	\$64,768
9	4/10/84	Provide additional equipment in Los Angeles as identified during system acceptance testing.	-0-
10	8/31/84	Provide funding for equipment listed in Modification 9.	\$86,000
11	4/17/85	Reconcile outstanding equipment changes for Los Angeles.	\$93,633
12	6/20/85	Fully accept Los Angeles DVP system, as of 4/14/85.	-0-
Total			\$3,701,397

- Modification 4, dated December 3, 1982, provided \$98,987 to reconfigure the Los Angeles system design. This modification added equipment to meet the FBI's requests for new capabilities, reconfigured equipment sites to reduce communications interference, changed the system design to enhance electrical protection and overall system performance, and provided 10 FBI technical personnel with Motorola training that addressed key radio and microwave equipment operations.
- Modification 5, dated February 2, 1983, provided \$2,937,326 to exercise the options clause for a variety of DVP equipment. The FBI purchased this equipment to meet additional needs for voice privacy systems, which included the increasing equipment needs of the 19 off-site surveillance squads; the need for additional DVP systems to provide Olympic-related coverage in Las Vegas, Nevada, and San Diego, California; and requests for DVP equipment to assist surveillances in Pittsburgh, Pennsylvania, and Alexandria, Virginia.
- Modification 7, dated September 23, 1983, provided \$223,425 for aircraft radios. After the Allison contract award, according to FBI correspondence, Motorola engineered a DVP radio suitable for aircraft use. The FBI indicated that each Bureau aircraft must be equipped with this

radio to allow for compatible voice privacy operations with the surveillance squads in Los Angeles and the 19 off-site surveillance offices.

- Modification 8, dated December 9, 1983, provided \$64,768 to (1) change microwave frequencies and (2) install a new radio tower. The Interdepartment Radio Advisory Committee, which oversees federal agency use of the frequency spectrum, required the FBI to change its microwave frequency to avoid potential interference problems in the area.
- Modification 10, dated August 31, 1984, provided \$86,000 in additional funding to provide new radio capabilities to the FBI's Los Angeles office. During the April 1984 system acceptance test, the FBI determined that it needed an office-wide communications channel to allow its Los Angeles office to centrally manage any crisis that might occur during the Olympics. This special channel had to be designed and retrofitted into the console, and FBI personnel had to be trained in its use. The FBI's Technical Services Division developed a technical solution to the problem, and presented it to Motorola for implementation.

Modification 10 also relieved Motorola, Inc., of any additional responsibility for five incomplete radio sites in the Los Angeles office: Rodman, Tourquoise, Cunningham, Frazier, and Cactus City. According to FBI officials, these sites are incomplete because of site leasing and installation problems.

- Modification 11, dated April 17, 1985, provided \$93,633 to reconcile outstanding equipment changes for the Los Angeles system. These changes supplied the Los Angeles office with console control equipment identical to that being provided under subsequent Motorola contracts. The modification also documented that all outstanding items related to the Los Angeles system were completed, except for the console retrofit.
- Modification 12, dated June 20, 1985, documented the FBI's acceptance of the console retrofit for the Los Angeles system. According to the modification, the acceptance date of the system and the console retrofit was April 14, 1985—over a year after the original estimated completion date of January 1984.

Contract Status

Although the FBI considers the Los Angeles voice privacy system to be a fully operational and accepted system, equipment installation has not been completed at four radio sites. While Modification 10 relieved Motorola, Inc., of responsibility for five radio sites, the FBI is attempting to complete work at these sites. FBI officials noted that equipment for four sites is on order for fiscal year 1987, and that further work at these sites may be funded through the Allison contract if money is available,

or through one of the other DVP contracts. Installation work at a fifth site (Rodman Mountain) is being completed by Conlan Engineering Corporation, which had been a Motorola subcontractor on the FBI's other DVP contracts. According to an FBI official, the Bureau contracted directly with Conlan Engineering Corporation (contract J-FBI-87-014) in January 1987, because the installation quote received from Motorola was too high. This procurement totaled \$51,215.

The original contract price was \$13,129,486. At the time of award, however, only Task 1 (the Los Angeles voice privacy system) was fully funded at \$7,252,589. Task 2 (equipment for the 19 off-site surveillance squads) and the options clause were awarded contingent on funding availability. Modification 1 added funding of \$112,258 for Tasks 1 and 2, increasing the firm fixed price to \$7,364,847.² Modification 2 fully funded Task 2 and the options clause, bringing the total contract funding to \$13,241,744. It did not increase the contract price.

The revised contract price, including contract modifications executed through February 2, 1987, totaled \$16,830,883. This contract price does not include the cost of the separate procurement from Conlan Engineering Corporation, which totaled \$51,215, or the cost to complete the four remaining radio sites.

²We are continuing our review to determine why the contract funding exceeded the original firm fixed contract price.

Eierman Digital Voice Privacy Contract (J-FBI-83-162)

The FBI awarded contract J-FBI-83-162 (the "Eierman" contract) to Motorola, Inc., on September 29, 1983, for the firm fixed price of \$32,676,698. Of this amount, \$22,201,129 was funded at the time of award. The original estimated contract completion date, according to Motorola correspondence, was February 2, 1985.

At the time of our audit work, the FBI contract office could not find the Eierman contract or Modification 1. Consequently, the information presented in this appendix comes from our review of the remaining Eierman contract modification and correspondence files, which were available from the contract office, and discussions with key FBI program officials. We were able to determine from this information that Modification 1 did not increase the contract cost.

Contract Scope

The Eierman contract called for Motorola to design, manufacture, and install a DVP radio and microwave system in the following five FBI field offices:

- Boston
- New York
- Chicago
- Miami
- Washington

This contract also contained an options quantity clause, which allowed the FBI to purchase additional quantities of equipment listed in the contract, at originally negotiated unit prices.

Contract Modifications

As of February 2, 1987, the FBI had executed 21 contract modifications, totaling \$6,795,505 (see table V.1). Many of these modifications were to provide DVP equipment for special operations (for example, the Organized Crime Drug Enforcement Task Force and the Hostage Rescue Team) and special events (for example, the 1984 World's Fair in New Orleans, the Democratic Convention in San Francisco, and the Republican Convention in Dallas) in locations that were not covered by the Eierman contract. Another modification covered extensive system design changes resulting from frequency and site acquisition problems. Additional information on key contract modifications follows.

**Appendix V
Eierman Digital Voice Privacy Contract
(J-FBI-83-162)**

Table V.1: Eierman Contract Modifications

Modification Number	Date	Description	Additional Cost
1		Modification missing from contract files.	-0-
2	12/09/83	Fully fund the contract.	-0-
3	3/29/84	Purchase DVP mobile radios for Organized Crime Drug Enforcement Task Force.	\$1,495,522
4	3/29/84	Provide DVP equipment for special events such as 1984 Olympics.	\$1,824,221
5	5/02/84	Extend option clause through 6/30/84.	-0-
6	4/24/84	Purchase additional equipment for 1984 Olympics.	\$105,070
7	5/31/84	Purchase equipment for special events and operations.	\$53,167
8	5/22/84	Purchase equipment for Hostage Rescue Team.	\$359,514
9	5/31/84	Add equipment for special event coverage.	\$449,980
10	8/31/84	Provide special case coverage equipment.	\$366,549
11	9/20/84	Provide additional equipment for Organized Crime Drug Enforcement Task Force.	\$298,858
12	9/27/84	Purchase additional equipment for Hostage Rescue Team.	\$57,038
13	11/16/84	Purchase additional equipment for Washington field office.	\$14,312
14	2/20/85	Designate contracting officer's technical representative.	-0-
15	7/12/85	Finalize system designs for the 5 field offices.	\$1,572,052
16	2/07/86	Provide equipment for a DVP training system at the FBI Academy, Quantico, Virginia.	\$57,096
17	6/20/86	Provide additional funding for a radio tower in the Chicago field office.	\$136,510
18	6/20/86	Provide additional funding for Quantico Training System.	\$2,694
19	7/31/86	Fund 2 microwave path surveys in the Chicago field office.	\$2,931
20	11/03/86	Replace original contract services and equipment with alternate equipment and services, resulting in a \$9 credit to the FBI.	(\$9)
21	11/03/86	Change contracting officer's technical representative.	-0-
Total			\$6,795,505

- Modification 3, dated March 29, 1984, provided \$1,495,522 to purchase mobile radios to meet requirements of the Organized Crime Drug Enforcement Task Force. The FBI used the options quantity clause for this purchase.

-
- Modification 4, also dated March 29, 1984, provided \$1,824,221 to meet multiple demands for DVP systems to cover special events, including the 1984 Summer Olympics and the World's Fair. Most of these events were held in field offices that were not covered by the Eierman contract.
 - Modification 8, dated May 22, 1984, provided \$359,514 to purchase special, heavy-duty voice privacy equipment for the FBI's Hostage Rescue Team. In addition to being waterproof and dust proof, the heavy-duty equipment meets military standards for operations in adverse environmental conditions. According to an FBI memorandum, this procurement represented a new need that was not previously budgeted in the voice privacy program, and lacked specific funding. The memorandum further noted that funds to support this requirement had to be taken from the voice privacy program, reducing the amount of funding available to develop voice privacy radio systems for the field offices.
 - Modification 15, dated July 12, 1985, provided \$1,572,052 to cover costs of the finalized system design for the five contracted field offices. To support this modification, Motorola prepared detailed documentation identifying all of the Eierman project changes that had occurred since the 1983 contract award. Motorola's resulting document summarized extensive changes in the original equipment quantities and system configurations, many of which resulted from frequency and site acquisition problems. Except for one change that totaled \$11,586, the FBI accepted Motorola's document as accurate.

In a supporting memorandum, the FBI stated that the increased costs associated with Modification 15 resulted from more careful definition of the original contract effort and should be paid from 1983 funds. According to the purchase order, fiscal year 1983 funds were used to fund the modification.

Contract Status

As of February 2, 1987, only the New York and Washington field offices had systems that were fully accepted and operational. The original contract price of \$32,676,698 was fully funded in December 1983. The revised contract price, including contract modifications executed through February 2, 1987, totaled \$39,472,203.

Gload Digital Voice Privacy Contract (J-FBI-84-142)

The FBI awarded contract J-FBI-84-142 (the "Gload" contract) to Motorola, Inc., on September 27, 1984, for the firm fixed price of \$51,365,589. Of this amount, \$47,615,276 was funded at the time of award. The original estimated contract completion date was September 1, 1986.

Contract Scope

Under the Gload contract, Motorola has full system responsibility for designing, developing, and installing a digital voice privacy radio and microwave system in the following 17 FBI field offices:

- Atlanta
- Dallas
- San Juan
- Las Vegas
- Houston
- San Francisco
- Cleveland
- Newark
- Baltimore
- Philadelphia
- Kansas City
- Pittsburgh
- St. Louis
- Albany
- New Haven
- Buffalo
- Detroit

This contract also contains an options quantity clause, allowing the FBI to purchase up to 50 percent of the equipment quantities listed at the prices negotiated in the contract.

Contract Modifications

As of February 2, 1987, the FBI had executed 30 modifications, totaling \$16,305,121 (see table VI.1). Many of these modifications covered system redesigns for the field offices listed above, at a cost of approximately \$12.2 million. Other modifications exercised the options quantity clause, with the FBI purchasing additional equipment for locations not covered by the contract. Additional information on key contract modifications follows.

**Appendix VI
Gload Digital Voice Privacy Contract
(J-FBI-84-142)**

Table VI.1: Gload Contract Modifications

Modification Number	Date	Description	Additional Cost
1	9/27/84	Furnish supplies and services for 17 divisions and incorporate contractor's proposal.	-0-
2	12/13/84	Clarify government audit agreement between FBI and contractor.	-0-
3	12/13/84	Provide equipment for 1985 presidential inauguration.	\$19,805
4	12/13/84	Provide equipment for FBI headquarters command center.	\$28,972
5	12/13/84	Provide equipment for San Diego field office.	\$70,772
6	12/13/84	Provide additional equipment for 1985 presidential inauguration.	\$14,206
7	12/18/84	Provide equipment for the Attorney General's security detail.	\$117,365
8	12/18/84	Fully fund the contract.	-0-
9	12/28/84	Accurately account for contract funds.	-0-
10	2/20/85	Designate contracting officer's technical representative.	-0-
11	3/13/85	Add siren horn button control to mobile radios to be delivered under the contract.	\$42,325
12	4/17/85	Provide headquarters and field office equipment, and test equipment.	\$1,380,429
13		Provide mobile radios and portable equipment for Washington field office. (Modification document was missing from contract file. Used purchase order for cost data.)	\$159,926
14	8/01/85	Purchase special equipment for aircraft communications.	\$32,650
15	8/01/85	Purchase equipment for Alexandria, Virginia, and FBI headquarters.	\$117,567
16	8/05/85	Extend options clause through 9/30/85.	-0-
17	8/29/85	Provide microwave test equipment.	\$307,650
18	9/25/85	Finalize system designs for 6 field offices.	\$4,094,316
19	9/26/85	Provide radio equipment for Internal Revenue Service.	\$117,285
20	9/26/85	Provide equipment for FBI/DEA integrated system test in Boston.	\$999,778
21	9/27/85	Provide radio towers for Radio Engineering Unit and Alexandria, Virginia.	\$300,000
22	3/13/86	Provide additional equipment for Hostage Rescue Team.	\$70,768
23	3/12/86	Provide additional equipment for 5 final system designs.	\$75,712
24	5/27/86	Change model number on mobile radio.	-0-
25	9/03/86	Provide additional equipment for San Francisco field office.	\$77,737
Subtotal			\$8,027,263

Appendix VI
 Gload Digital Voice Privacy Contract
 (J-FBI-84-142)

Modification Number	Date	Description	Additional Cost
26	9/03/86	Replace batteries in Baltimore field office and antennas in Buffalo field office.	\$10,023
27	9/15/86	Finalize system designs for 11 remaining field offices.	\$8,078,261
28	9/18/86	Provide additional equipment for Las Vegas and Dallas field offices.	\$171,088
29	11/03/86	Change contracting officer's technical representative.	-0-
29a	1/08/87	Provide additional funding for replacement of batteries at selected sites.	\$18,486
Subtotal From Previous Page			\$8,027,263
Total			\$16,305,121

- Modification 12, dated April 17, 1985, provided \$1,380,429 through the options quantity clause, to purchase assorted voice privacy equipment for FBI headquarters and field office use. It did not indicate which offices would receive equipment.
- Modification 14, dated August 1, 1985, provided \$32,650 through the options quantity clause, to purchase equipment for aircraft communications.
- Modification 17, dated August 29, 1985, provided \$307,650 for microwave test equipment to maintain and repair microwave equipment.
- Modification 18, dated September 25, 1985, provided \$4,094,316 for finalization of the system design and pricing for 6 of the 17 contracted field offices. The modification also incorporated a system responsibility agreement, system acceptance test procedures, and a clarification to the warranty provision.
- Modification 20, dated September 26, 1985, provided \$999,778 to purchase equipment for the Drug Enforcement Administration (DEA) in Boston. The FBI used this equipment as a preliminary test for an integrated voice privacy system that would serve the needs of the DEA, Boston, and the FBI, Boston. The Bureau purchased the equipment through the options quantity clause and planned to loan it to DEA during the test period.
- Modification 21, dated September 27, 1985, provided \$300,000 for the delivery and installation of radio communications towers at Newington, Virginia, and the U.S. Coast Guard Facility in Alexandria, Virginia. These towers were not included in the original contract, but, according to an FBI supporting memorandum, became necessary to solve a "multiplicity of communication problems in the metropolitan Washington, D.C., area." The towers would support microwave communications between FBI headquarters in Washington, D.C.; the Engineering Research

Facility in Newington, Virginia; and the FBI Academy in Quantico, Virginia. In addition, the towers would also support two-way radio communications for the Engineering Research Facility and for area training exercises at the FBI Academy.

- Modification 23, dated March 12, 1986, provided an additional \$75,712 for equipment to finalize system designs at five of the six field divisions covered by the redesign effort in Modification 18. Modification documents indicated that Motorola submitted revised system designs for the above offices and that the FBI's review of these designs showed they met the operational requests of each office.
- Modification 27, dated September 15, 1986, provided \$8,078,261 in additional funds for final system designs for the 11 remaining contract field offices. Modification documents indicate that all Gload project system designs required extensive redesign to reduce costs and to correct operational and technical deficiencies.
- Modification 28, dated September 18, 1986, provided \$171,088 in additional funds for increased equipment in the Dallas and Las Vegas systems. According to modification documents, Motorola submitted revised system designs, which the FBI reviewed for accuracy.

Contract Status

As of February 2, 1987, none of the Gload field offices had been accepted as complete by the FBI. The following offices are midway through installation:

- San Francisco
- Baltimore
- Las Vegas
- Houston
- Buffalo
- Dallas

The original contract price was \$51,365,589, with \$47,615,276 funded at the time of award. In December 1984, the FBI fully funded the contract at \$51,615,730.¹ The revised contract price, including contract modifications executed through February 2, 1987, totaled \$67,670,710.

¹We are continuing our review to determine why the contract funding exceeded the original firm fixed contract price.

Kepner Digital Voice Privacy Contract (J-FBI-85-150)

The FBI awarded contract J-FBI-85-150 (the "Kepner" contract) to Motorola, Inc., on September 25, 1985, for the firm fixed price of \$49,950,160. Of this amount, only \$19,000,000 was funded at the time of award. The original estimated contract completion date is September 1, 1987.

Contract Scope

The contract called for Motorola to design, manufacture, and install new digital voice privacy radio systems and microwave equipment in the following 13 FBI field offices:

- San Diego
- New Orleans
- Phoenix
- Tampa
- Jacksonville
- Savannah
- Denver
- Milwaukee
- San Antonio
- Oklahoma City
- El Paso
- Alexandria
- Indianapolis

In addition, the contract included an options quantity clause that allows the FBI to purchase up to 50 percent of the equipment quantities listed in the contract, at the originally negotiated unit prices.

Contract Modifications

As of February 2, 1987, the FBI had executed 14 contract modifications, totaling \$2,540,924 (see table VII.1). Many of these modifications were to purchase equipment through the options quantity clause, for field offices other than those covered by the contract. Additional information on key contract modifications follows.

- Modification 2, dated January 22, 1986, provided \$266,432 to purchase Motorola microwave test equipment for the 17 field offices covered by the earlier Gload Digital Voice Privacy Contract (see appendix VI) and for the Engineering Research Facility in Newington, Virginia. A September 10, 1985, FBI memorandum recommended procuring the test equipment, indicating that it was necessary for maintenance and repair

**Appendix VII
Kepner Digital Voice Privacy Contract
(J-FBI-85-150)**

work. The equipment had not, however, been included in the Gload contract. Consequently, the FBI purchased this test equipment through the options quantity clause of the Kepner contract.

Table VII.1: Kepner Contract Modifications

Modification Number	Date	Description	Additional Cost
1	9/25/85	Incorporate contractor's proposal.	-0-
2	1/22/86	Purchase microwave test equipment for Gload contract offices and Lorton, Virginia.	\$266,432
3	5/14/86	Extend option clause period to 7/31/86.	-0-
4	6/20/86	Purchase equipment for 4 field offices (3 of the 4 offices were not covered by the contract).	\$294,839
5	7/31/86	Purchase kit to modify radios purchased under Allison and Eierman contracts.	\$54,460
6	8/14/86	Extend option clause period and incorporate secure voice equipment into contract.	\$109,870
7	9/17/86	Provide complete funding for 6 of the 13 field offices.	-0-
8	9/25/86	Provide funding for 7 remaining offices and purchase equipment for San Juan field office and FBI Academy, Quantico, Virginia.	\$1,111,644
9	9/29/86	Purchase specialized test equipment for 57 field offices.	\$492,595
10	9/30/86	Purchase replacement equipment for Lorton, Virginia.	\$35,776
11		Modification number not used by contracting officer.	-0-
12	11/03/86	Change contracting officer's technical representative.	-0-
13	11/19/86	Incorporate Indianapolis DVP system for special event into Kepner contract.	-0-
14	12/19/86	Authorize building and shipment of Indianapolis DVP system.	-0-
15	1/06/87	Provide additional DVP equipment for various field offices.	\$175,308
Total			\$2,540,924

- Modification 5, dated July 31, 1986, provided \$54,460 to purchase modification kits for older version mobile radios. According to an FBI memorandum, these modification kits would be retrofitted into approximately 2,000 mobile radios that the Bureau had purchased from Motorola under the Allison and Eierman contracts. These mobile radios would revert to a basic channel when turned off, requiring the operator to reselect the last channel when turning the radio unit on again. According to this memorandum, most mobile radio operators were unaware that the radio had automatically reverted to a basic channel, which resulted in missed

communications and operational difficulties. These modification kits contained hardware that would return the radio to the last, operator-selected channel, when the radio was turned on.

- Modification 6, dated August 14, 1986, provided \$109,870 to procure a more secure grade of voice privacy equipment. This type of voice privacy technology provides the highest degree of security, and is generally reserved for the most sensitive operations. Purchasing this type of equipment represents a new requirement that was not included in the Motorola contracts.
- Modification 8, dated September 25, 1986, totaled \$1,111,644. These funds were used to purchase digital voice privacy equipment under the options quantity clause, for the FBI's San Juan field office and its Quantico Training Facility. Neither of these locations was covered by the Kepner contract.
- Modification 9, dated September 29, 1986, provided \$492,595 to purchase radio test equipment for 57 of the FBI's 59 field offices, the Newington Engineering Research Facility, and the Quantico Training Facility.
- Modification 13, dated November 19, 1986, authorized building and shipping of a special system to provide the Indianapolis office with voice privacy coverage for the World Indoor Track and Field Events, planned to begin in late February 1987. Because of the unique nature of some of the equipment used in this system and the time constraints for manufacture and shipment, the FBI waived the requirement that Motorola test equipment in the manufacturing plant before shipping it to the FBI. Motorola submitted a quote of \$1,394,423 for equipment only, and requested that the FBI issue a contract modification. However, the Bureau determined that sufficient funding existed under the Kepner contract to pay for the special system and did not provide additional funds.

Contract Status

As of February 2, 1987, none of the radio or microwave systems for the 13 field offices were operational. Of the original \$49,950,160 contract amount, \$26,453,152 had been funded through September 17, 1986, to cover 6 of the 13 field offices. An additional \$4,857,128 was provided on September 25, 1986, to begin acquiring equipment for the remaining seven field offices.

The revised contract price, including contract modifications as of February 2, 1987, totaled \$52,491,084.

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