

**ADMINISTRATIVE-INTERNAL USE ONLY**

Problem Statement

- 1. FBIS Problem \_\_\_\_\_
- 2. Title - Antenna Research
- 3. Policy Basis - N/A
- 4. Expected Benefits - Improvement of FBIS collection activities and the reduction of operating costs.

5. Customer -   
 FBIS/OPS/ED

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STAT

6. Problem Description - Carry out an ongoing program of research focused on antennas suitable for the 0.5 to 30 MHz frequency band. Emphasis should be on improved performance in the presence of significant man-made electrical noise under a severe size limitation. Identified antenna types should be adaptable to nonstandard physical environments such as inner city roof tops and small urban yards.

7. Background - FBIS field bureaus are typically located in office buildings and/or residential areas of major cities. The physical limitations imposed by such locations generally forces significant deviations from classical antenna types. These compromises coupled with the high man-made interference environment create a very difficult reception task. One alternate is to locate receivers and more typically antennas at remote locations. Although successful in numerous instances, this procedure is more expensive equipment wise, more vulnerable technically, and typically is dependent upon the concurrence of local authorities. It is desirable where possible to bring the entire receiving operation under the control of FBIS.

8. Time Requirements - This is a current and long-range requirement.

9. References - Current remote operations in operation - Data and characters will be supplied by FBIS Engineering.

10. FBIS priority number 1.

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## Problem Statement

1. FBIS Problem \_\_\_\_\_
2. Title - Analog Speech Compression
3. Policy Basis - N/A
4. Expected Benefits - Solution of this problem will allow better utilization of expensive leased communication lines and receiving facilities and enhance FBIS' real-time processing capability from remote receiving sites.
5. Customer -  STAT  
 FBIS/OPS/ED STAT
6. Problem Description - FBIS operates several remote receiving sites using leased commercial telephone grade circuits. A high quality analog speech compression device is required which will allow simultaneous transmission of two voice broadcast signals over a single circuit.
7. Background - FBIS uses leased commercial telephone circuits to remotely receive voice broadcast data. These lines are expensive, costing in excess of \$200K for an intercontinental circuit. If the remote receiving site is manned, analog recorders can be used to record the broadcasts and sequentially retransmit them over the leased circuit. In many cases, the receiving site will be unmanned, thus precluding the use of analog recorders. The compression of two broadcast channels for transmission over one circuit would permit remote control of the receivers, increase timeliness of information and improve the overall utility of leased circuits without increasing annual lease costs.
8. Time Requirements - The problem solution is currently required and will be required over the next three-five years.
9. References - There are no written references, but discussions should be held with FBIS engineers on current remote operations.
10. FBIS priority number 2.

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## Problem Statement

1. FBIS Problem \_\_\_\_\_
2. Title - Advanced Automated Storage and Retrieval Technology
3. Policy Basis - N/A
4. Expected Benefits - Proper indexing and storage of the data produced by FBIS and the ability to effectively retrieve this information constitute the backbone of the media analysis efforts upon which FBIS analysts rely for identifying trends and responding to internal and external queries. During the FY 1983 and 84 period, FBIS intends to develop and install an automated storage and retrieval system in support of Analysis Group, FBIS, based on MIDAS electronic input and certain selected JPRS products, utilizing to the extent possible existing full text search hardware and software. By FY 1985, technology should allow microprocessing techniques and related software to significantly improve the timeliness and efficiency of text information retrieval, thus sharply increasing the value of FBIS products for both current reporting and continuing research and analysis.
5. Customer -  STAT  
                             FBIS/C/AG  
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6. Problem Description - While FBIS is developing its initial automated storage and retrieval system, ORD in parallel is funding the University of Utah's Department of Computer Science to design the next generation text information retrieval system. Assuming that an FY 1983 design effort for the FBIS text retrieval system results in implementation, then FY 1985 would allow this new system to serve as a test bed for improvements and feasibility demonstrations of new requirements emerging from the initial operating FBIS text retrieval system.
7. Background - This whole technology area could have important applications in FBIS' Daily Reporting Division, JPRS, and in overseas field bureaus as well as possible extensions elsewhere in the Agency.
8. Time Requirements - FY 1983 and 84 efforts should be directed toward a recognition of this FY 1985 activity. In the 1986-90 time frame, planning should reflect this schedule.
9. References - Chief, Analysis Group, FBIS memorandum, "Automatic Storage and Retrieval of FBIS Materials," dated 2/5/82.
10. FBIS priority number 3.

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