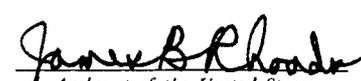


Let Voice undifferenciated 2 items

**REQUEST FOR AUTHORITY
TO DISPOSE OF RECORDS**

(See Instructions on Reverse)

LEAVE BLANK	
DATE RECEIVED DEC 13 1972	JOB NO NR-173-109
NOTIFICATION TO AGENCY	
<p>In accordance with the provisions of 44 U.S.C. 3303a the disposal request, including amendments, is approved except for items that may be stamped 'disposal not approved' or 'withdrawn' in column 10</p>	
Date 2-2-73	 <i>James B. Rhoads</i> Archivist of the United States

**TO GENERAL SERVICES ADMINISTRATION,
NATIONAL ARCHIVES AND RECORDS SERVICE, WASHINGTON, D.C. 20408**

- 1 FROM (AGENCY OR ESTABLISHMENT)
DEPARTMENT OF THE AIR FORCE, HQ USAF
- 2 MAJOR SUBDIVISION
DIRECTORATE OF ADMINISTRATION
- 3 MINOR SUBDIVISION
DOCUMENTATION SYSTEMS DIVISION
- 4 NAME OF PERSON WITH WHOM TO CONFER
MISS M. L. BISHOP
- 5 TEL EXT
11-29211
- 6 CERTIFICATE OF AGENCY REPRESENTATIVE

I hereby certify that I am authorized to act for this agency in matters pertaining to the disposal of the agency's records, that the records proposed for disposal in this Request of 1 page(s) are not now needed for the business of this agency or will not be needed after the retention periods specified

12 DEC 1972

R. E. Reilly
 (Signature of Agency Representative)

R. E. REILLY, Chief
 Documentation Management Branch
 Directorate of Administration

(Date)

(Title)

7 ITEM NO	8 DESCRIPTION OF ITEM (With Inclusive Dates or Retention Periods)	9 SAMPLE OR JOB NO	10 ACTION TAKEN
	ORBITAL ELEMENT CARDS (Applicable to Aerospace Defense Command)		
	Description of series can be found in attached Decision Logic Table. Requested disposal for the series in present form (paper, punch cards and magnetic tape) is "after it is ascertained that microfilm copies have been made in accordance with GSA regulations and are adequate substitutes for the original records." The Microform System proposal is attached for information in accordance with FPMR 101-11.5. In addition to the information contained therein, the requesting activity has ascertained that a positive microfilm print can be prepared by another Air Force installation and that archival quality checks can be administered.	NN-170-33 (T55-8-1)	

TABLE 55-8

SPACE DETECTION AND TRACKING SYSTEM (SPADATS) RECORDS

R U L E	A	B	C	D
	If documents are or pertain to	consisting of	which are	then
1	orbital element card	data used for updating the satellite historical data base	at HQ ADC	retire as permanent 1 year after object decay except when converted to microfilm. (See Note 1)
2	space object identification (SOI)	report cards		destroy when purpose has been served.
3		observations report cards		
4		reports		
5			at a tracking site	destroy when purpose has been served.
6		messages of SOI data forwarded to SDC		destroy when receipt of data is confirmed by SDC.
7		cross-tell report messages	received from other tracking sites	destroy after 1 year, or when purpose has been served.
8		amplitude data recordings for each track of a satellite, and computer printouts of satellite positional data	of specialized interest (most valuable data)	retire as permanent on decay of satellite
9			data recordings and/or computer printouts other than rule 8	destroy 30 days after object decay, or when purpose has been served.
10		time-sequenced logs of significant operational events	maintained by SDC and space track sensors	destroy 1 year after last data entry in the log
11		Baker-Nunn camera films and optical sensor passage records	film and data of specialized interest	destroy when purpose has been served.
12		such data as camera settings, times of observation, atmospheric conditions, and field reductions, etc	films other than special interest	destroy after 3 months

Note 1: When orbital element documentation is converted to microfilm:

- a. Destroy original documentation after it has been ascertained that the microfilm copies have been prepared in accordance with GSA regulations (implemented by AFR 12-40 within Air Force) and are adequate substitutes. **DISPOSAL APPROVED**

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS FOURTEENTH AEROSPACE FORCE (ADC)
ENT AIR FORCE BASE, COLORADO 80912



REPLY TO
ATTN OF. DOY

13 OCT 1972

SUBJECT: Proposed Documentation Storage and Retrieval (DS&R) System,
Directorate of Warning Systems, 14 Aerospace Force (ADC), Ent
AFB, CO

TO:
ADC/DAD

1. A DS&R System is proposed for the Configuration Management and Support Division (DOYC), Building 1520, Ent Air Force Base, Colorado 80912.

2. Present system:

a. The computerized space satellite orbital element system was established for the Air Force in 1965 to systematically control punched card records which had accumulated since 1957. Subsequently, the drastic increase in card usage created a requirement to update the system and in 1969 a magnetic tape-oriented storage capability was implemented. The magnetic tape storage medium is currently burdened by an input rate of over 220,000 punched card element images per year. Additionally, the 220,000 punched card records must be retained permanently as indicated in AFM 12-50. The magnetic tape storage medium generated an additional requirement resulting in many pages of computerized printout (currently over 1,000 pages per day). Accumulated records exceed 100,000 pages of computer printout and more than 100 reels of 3,600 foot magnetic tape (approximately 400,000 pages) which are to be printed. Consistent increases are projected based on past data influx records (reference attachment).

b. File volume: 32 cubic feet (one inch magnetic tape); 300 cubic feet (punched cards), and 288 cubic feet (computer printout) yearly.

c. File (document) maintenance and disposition. Files are decentralized and cards are arranged chronologically. The method of update is by a large scale digital computer which provides approximately one hundred (100) updates per year. Currently, satellite orbital element cards are retired to the Denver Federal Records Center each month due to lack of storage cabinets and space within ADC. Computer printouts are retained permanently subsequent to system qualification. The method of indexing and filing is computerized with respect to the magnetic tape files and manually filed chronologically by satellite and time with respect to computer listings.

d. Retrieving and furnishing information. The method of retrieving from a file is manual for all punched card and computer printout references. The magnetic tape files are accessed by computer requiring manual parameter card definition.

(1) The total number of file references (computerized and manual) averages 92 per day, or 1,834 per month.

(2) Backup information is on magnetic tape reels and machine listings. Over 50 users from a wide spectrum of worldwide military and scientific agencies require these data.

(3) Some questions asked are:

(a) What space environmental data are available?

(b) What orbital parameters are available for data file reference?

(4) Time required for a typical computer search is 10-20 minutes with extreme variations possible.

(5) Percentage of searches that require copies: 90%.

(6) Method of copying: computer printer.

e. Manpower:

(1) Personnel assigned:

(a) One civilian, GS-334-11, AFSC 5135B, under direction of the Configuration Management and Support Division, manages the satellite orbital element project in addition to other assigned functions.

(b) One part-time military, Sgt, AFSC 70250, is assigned with limited availability, but another full-time employee would be beneficial to attain maximum efficiency.

(c) Four support personnel are required at the support computer facility, including computer operators, dispatchers, filing clerks, and librarians. This facility is operated by another agency within the Aerospace Defense Command.

(2) Manhours required for filing, indexing, retrieving, copying, and disposing of documents:

(a) One civilian, GS-334-11, AFSC 5135B, dedicates approximately 35 hours per week to the element project.

(b) One part-time military, Sgt, AFSC 70250, is employed approximately five hours per week on the element project.

(c) Four computer support personnel are employed full-time involving support of the element project.

f. Equipment and floor space.

<u>TYPE</u>	<u>NUMBER</u>	<u>SQ FT</u>
File cabinets	3	18
Storage cabinets	3	36
Desks	1	12
Tables	1	12
Bookcase sections	<u>9</u>	<u>54</u>
TOTAL	17	132

3. Proposed system:

a. System description. The proposed storage medium is 16mm, thin base, magazine roll film, with a reduction ratio of 32:1. Files will be transposed from computer listing onto two original microfilm rolls simultaneously containing approximately 6,000 pages per roll. Microfilm will be processed in-house to comply with the near real-time file access required by many military users. The type of film used will, therefore, have to contain immediate process qualities and the processor must be capable of processing film immediately after exposure in addition to retaining archival quality. Subsequent to the original exposure, additional copies of the film rolls are not anticipated. Primary storage will be centralized within the division and microfilm retirement disposition will be complied with as required. Reference to the file will be accomplished using a microfilm reader/printer.

b. File volume: Required volume is not expected to exceed one cubic foot of thin base, 215', magazine roll film per year. Currently an estimated 15-year holding is in the inventory which includes punched cards sent to the Federal Records Center in Denver, Colorado.

c. File maintenance and disposition. File will be centralized and arranged in chronological order. Indexing will be provided on computer listing and microfilmed weekly on roll film. Documentation disposition will be in accordance with AFM 12-50, table 55-8, rule 1. Paper records, both computer printout and punched cards, will be destroyed after

acceptable microfilming of the printout. Magnetic tape from which the printout was generated may be returned to the supplier.

d. Retrieval and furnishing information:

(1) Method of referencing is by chronological time sequence.

(2) Number of subsystem microfilm references per day should average 25-30 with an average search time of five minutes each. Computerized retrieval will account for approximately 60 additional references per day.

(3) Type of questions to be asked will be similar to paragraph 2d(3).

(4) The method of furnishing information to the searcher will be the reader-printer screen with approximately 60% of the inquiries requiring paper print. Copies of the microfilm roll are not anticipated.

e. Manpower: One civilian, GS-334-11, AFSC 5135B, will manage the proposed system on a continual basis and at least one additional part-time military, Sgt, AFSC 70250, will be required to initially establish the microfilm system, transpose the backlog, and perform other assigned duties. Manhours required for microfilming unburst printouts, excluding preparation, will be approximately 80 hours for backlog (over one year old) and 20 hours for current data (less than one year old); inspecting will require about 320 hours for backlog and 60 hours for current; and indexing will require nearly 80 hours for backlog and 20 hours for current data. Indexing and conversion of backlog will be performed over a four to six month period. Personnel presently assigned will require little training. No cost will be involved as vendor will provide training and consultation to the government at no charge.

f. Equipment required:

(1) Equipment list consists of Microfilmer, Processor, Reader-Printer, and required accessories.

Recordak Rotoline Microfilmer, Model RD3	Product No 5041	\$3755.30
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Accessory, RD3 Film Unit CD-3-32D (for thin base film)	Product No 5705	869.50
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Recordak Rotoline Feed Shelf	Product No 5044	202.10
Recordak Prostar Film Processor, Model DVR	Product No 5477	3619.00
Thermostatic Mixing Valve	Product No 3343	225.60
Accessory for Prostar Processor Cabinet Stand DVR	Product No 5350	188.00
Recordak Prostar Cabinet Sink DVR	Product No 5351	493.50
Processing Rack, Model VRJ*	Product No 5478	178.60
Prostar Processor Double Speed Kit	Product No 5496	376.00
Recordak Motormatic Reader Model MPG-TH	Product No 6523	1569.80
39X Lens Kit for MPG-TH	Product No 6522	112.80
29X Lens Kit for MPG-TH	Product No 6524	112.80
Printer, Model ERG	Product No 6528	1034.00
Printer Base, Model B	Product No 6529	423.00
11 Inch Print Platen	Product No 6533	94.00
Unit Record Adapter	Product No 6550	<u>169.20</u>
TOTAL		\$13,423.20

*The model VRJ will accommodate all types of film (dyeback, AHU, etc). Therefore, film processing compatibility is assured with the VRJ. If the model VRU is substituted, AHU film must be used exclusively.

(2) Reason for selecting this equipment.

(a) Studies within this directorate indicate the microfilm equipment requested in this proposal would best satisfy the local requirements as well as those of the Air Force in terms of quality, operational techniques, production ability, and economy. This equipment has the characteristics to provide for complete independent user system integrity and security, required versatility, and the capacity for future mass storage system compatibility.

1. The Rotoline Microfilmer utilizes independent film units which are removable and interchangeable. This provides for security application and multi-agency use where a multitude of projects are being filmed as would be the situation in this directorate. The Rotoline is not a locked or stable reduction machine; therefore, projects may be filmed at different reduction ratios depending on the film unit without major equipment adjustment. Duplicate simultaneous film exposure (providing two originals) with any of three film types is a definite cost savings in that additional duplicating equipment and manpower are not required for creating a backup file. The Rotoline Microfilmer will accommodate data pak thin-base film (215' folls) which offers more than double the density per single roll at less cost for both supplies and storage. This machine is one of the fastest, continuous form microfilmers available at 12,000 lines of printout data per minute (twice the speed of comparable filmers) which saves additional man and machine hours. The Rotoline filmer accepts document widths up to 18 inches at 32:1 reduction which is a requirement for processing select data by this organization. This offers up to 46% more printout on a 215 foot roll of 16mm film than with standard reduction ratios and standard film lengths. The Rotoline machine occupies only seven square feet of floor space, including front access hopper and paper stacking area. The Rotoline Microfilmer offers greater projectable savings in manning, supplies, film storage, run-time, and machine space than any other microfilmer reviewed by this office.

2. The Kodak reader-printer has a special accommodation for magazine roll film. The magazine effectively converts the roll film to a "low cost cartridge" by simply covering the exposed edge of the film reel at less than one eighth the cost of loading a select cartridge. The Kodak reader-printer will not only read magazines, but will also accommodate 16mm and 35mm roll film on conventional reels, solid flange reels, microfiche, film jackets, and aperture cards. This reader-printer accepts thin-base datapak film as well as standard-base films and has the capacity for up to three lenses at one time for select viewing size--a feature required for rapid telecon transmission of data directly from the viewer. Twelve (12) sizes of dry paper prints may be produced from both positive and negative film without changing toners and cut to size automatically--a needed feature for cost savings of paper.

3. The Prostar Film Processor is a compact (2 sq ft) unit for processing both 16mm and 35mm microfilm. The Prostar does not require darkroom environment and will

process from two feet to 100 feet of standard film or thin-base datapak (215') film. With the double speed kit, the Prostar has a processing rate of 10 feet per minute which will meet the near real-time processing requirement of this agency at a cost of 40% less than many other processing units. The Prostar also has built-in future system compatibility with COM System film adaptability.

4. This organization is maintaining historical data which requires application of archival standards. The aforementioned equipment is provided with a written guarantee from Kodak to meet the highest standards of quality including U. S. Government archival specifications. Operating techniques, quality control, and storage are of the utmost importance in maintaining archival film integrity. This equipment is easy to operate, provides management quality control capability, and requires minimum operating area in addition to minimum storage requirements (108 reels containing 215' of film per cubic foot with a maximum packing density of 32:1 reduction ratio). The total cost of this equipment includes, at no extra charge, a one-year maintenance contract for all parts and labor for all equipment listed. A hybrid system would require several costly maintenance contracts. A Kodak maintenance and service man is located in Colorado Springs, therefore eliminating possible extended delays to the operational system as a result of communication factors and travel time. As a result of the common equipment manufacture, only the Kodak service organization would need to respond should problems develop. This also eliminates controversial questions that are generated in hybrid systems. Time delays due to lack of coordination with respect to maintenance cannot be tolerated by this system.

(b) There is no equivalent Air Force-operated equipment available within Headquarters Aerospace Defense Command. Present equipment overages will be turned in for reissue.

g. Supplies Required (backlog and estimated first year):

Datapak Film - 8 cases 16mm x 215' @123.20 ea	Product No 3456	\$985.60
Prostar Developer - 40 gal @4.26	Product No 4328	170.40
Prostar Fixer - 40 gal @2.67	Product No 4329	106.80

Electrostatic 45 Paper - 6 rolls (11 x 300') @11.05	Product No 4527	66.30
Electrostatic 10 - Toner - 10 pints @2.43	Product No 4352	24.30
Electrostatic 30 - Intensifier 12 cans @4.52	Product No 4353	54.24
Thread-Easy Magazines - 300 @.30	Product No 3846	90.00
Return Reels - 1 case @.081 ea	Product No 3062	24.30
Magazine Labels, 2 env @2.93 per env	Product No 2280	5.86
16mm Self-Threader (pkg of 3) @1.17	Product No 2284	<u>1.17</u>
TOTAL		\$1528.97

NOTE: Estimated yearly supplies after first year - \$900.00

h. Facilities. A 70% decrease of required floor space is anticipated when the proposed system is installed and the backlog transposed. The only other change is a water connection which will be required for the new system at a minimum cost.

i. Resources. Funds are being programmed for implementation during FY73. Equipment delivery prior to 15 December 1972 would be highly desirable and expeditious delivery should be considered when selecting a vendor. Manpower and facilities are explained above.

j. Schedule:

	<u>BEGINNING</u> <u>DATE</u>	<u>ENDING</u> <u>DATE</u>
Proposal	1 Sep 72	16 Oct 72
Forwarded to USAF	16 Oct 72	31 Oct 72 (Approved)
Procuring equipment	16 Nov 72	15 Dec 72
Installing equipment	15 Dec 72	22 Dec 72
Modifying facilities	26 Dec 72	31 Dec 72
Indexing	2 Jan 73	12 Jan 73
Backlog	12 Jan 73	15 May 73

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS AEROSPACE DEFENSE COMMAND
ENT AIR FORCE BASE, COLORADO 80912

18 DEC 1972



REPLY TO
ATTN OF: DAD

SUBJECT: Proposed Documentation Storage and Retrieval (DS&R) System,
Directorate of Warning Systems, 14 Aerospace Force (ADC),
Ent AFB, CO

TO: HQ USAF/DADS

1. The attached DS&R system proposal is forwarded for your approval.

2. Consideration has been given to direct microfilm production by computer-output-microfilm (COM); however, a COM system is not economically feasible at this time.

3. The following additional clarifying information is provided in regard to paragraph references in the proposal:

a. Paragraph 2a. AFM 12-50, Table 55-8, Rule 1, establishes the satellite historical data base, and data used for its updating, as having "permanent" retention value. Planetary ephemeris data, math models, and solar cycles are among the reasons why space orbital data are preserved permanently. All data remains current regardless of age and cannot be regenerated as empirical data. For example, data from a 1957 satellite launch is current, has not been duplicated due to celestial variables, and perhaps never will be duplicated. Everchanging environmental, technical, and scientific conditions within a solar cycle negate the possibility of regenerating identical data. All data to be microfilmed are unclassified.

b. Paragraph 3a. We realize that DOD is attempting to standardize reduction ratios at 24x or 48x. However, a 32x reduction will provide a more economical system since considerably more data can be placed on a roll, which in turn also reduces the cost of film duplication to meet National Archives and Records Service (NARS) and local reference requirements. If 24x reduction must be used, a reader-printer with zoom lens capability would be required to provide adequate blow-back for real-time telephonic inquiries.

c. Paragraph 3c. Information to be filmed is already on magnetic tape and only computer printouts will be microfilmed. Punched cards will not be microfilmed.

d. Paragraph 3e. Manhour usage indicated is a "guess-timate". Experience may prove higher volume usage. Several

other sections within Fourteenth Aerospace Force are giving preliminary consideration to a microfilm project. If this requested system is approved, other sections will evaluate the application and determine joint usage potential. Personnel concerned are aware that each series of documentation must be individually approved prior to microfilming.

e. Paragraph 3f(1).

(1) Both 29x and 39x lens kits are being requested. The 29x kit will be used for standard viewing and hard copy reproduction. The 39x lens kit is required to enlarge the reader screen image for ease and accuracy in reading for telephonic inquiries. A 39x lens kit might be considered as a low cost type of zoom lens feature. The reader-printer provides manual adjustment for possible overflow of images in addition to full 360° image rotation.

(2) The requested reader-printer includes a component Unit Record Adaptor. Although the proposed system will primarily use magazine roll film, the requester is considering a jacket system for indexing. There are six primary data sources within the system, e.g., the satellite orbital element file, satellite observation file, missile file, satellite orbital information reports, weather data, and weight and biases/flux. Jackets would provide an independent indexing system for each source. Roll film would not lend to such a complex indexing requirement. In addition, the index will be updated weekly, therefore a jacket index could be more easily updated. The Unit Record Adaptor could be purchased at a later date; however, it seems more cost-effective to procure with the system since costs are continually rising.

(3) Although not specifically identified in paragraph 3f(1), the system will require use of quality control equipment, e.g., a densitometer, microscope and a residual hypo test kit, to insure compliance with archival requirements. Until such time as a microform service center is established for ADC, this work will be accomplished by Air Force Accounting and Finance Center, Denver, Colorado. An average of one 215' roll will be forwarded each week after the backlog has been eliminated. The backlog is estimated to be approximately 125rolls.

f. Paragraph 3f(2). In making the equipment selections, a comparison and impartial analysis of items available from three manufacturers was made. Selection of items requested was based solely on merits of the equipment, total systems

compatibility, and maintenance service, and was made completely without vendor influence.

g. Paragraph 3f(2)(a)2. Equipment listed in paragraph 3f(1) includes an eleven inch (11") print platen. The 11" platen used with printer model ERG will provide for prints to be made on twelve (12) different paper sizes, cut to size. This feature provides considerable paper cost savings. Other cost savings can be realized by use of the ERG reader-printer which will accommodate the low-cost "thread-easy" magazines. If any other type reader-printer is used, the cost factor using conventional cartridges would substantially increase the cost of system implementation.

h. Paragraph 3j. The schedule submitted in the proposal does not conform to instructions contained in AFR 12-40, Atch 2, paragraph 3j. Through coordination with the initiator of the proposal, request the following schedule be substituted. "0" Day indicates receipt of system approval.

(1) 0 + 15 days: Initiate procurement action.

(2) 0 + 45 days: Complete procurement action and begin equipment installation.

(3) 0 + 60 days: Complete equipment installation and begin modifying facilities.

(4) 0 + 65 days: Complete modification of facilities and begin indexing of backlog.

(5) 0 + 80 days: Complete indexing of backlog and begin microfilming.

(6) 0 + 200 days: Complete microfiling of backlog and implement continuing system for current data.

4. Paragraph 3f(2)(a)3 refers to the "near real-time processing" requirement of the user. This realistic requirement will be met by using one of the two original master camera silver negatives for immediate reference requirements. The other silver negative will be sent to Air Force Accounting and Finance Center, where a silver positive will be prepared to meet NARS requirements. A diazo copy will also be prepared for continuing reference by the user and the second silver negative roll will be preserved for backup.

5. We realize that substitution of microfilm for a permanent record requires NARS approval. However, we desire to initiate

procurement action at the earliest possible date so as to eliminate the need to obtain additional FY 73 computer tapes at a cost of nearly \$5,000. If your approval to microfilm the computer printouts is granted, the requester will continue to retire the punched cards to the records center, pending NARS approval to destroy them.

FOR THE COMMANDER



LEE A. SARTER, JR., Colonel, USAF
Command Director of Administration

1 Atch
14 Aerosp Force/DOY Ltr,
13 Oct 1972 w/Atch

Cy to: 14 Aerosp Force/DOY
AFAFC/SUAD

December 20, 1972

Memo for Record: Disposal of Air Force Orbital Element Cards after Microfilming

These records accumulate at Ent Air Force Base and are quite voluminous. The Air Force has considered them as permanent. I very much doubt that we would ever want to accession this material either in microfilm or paper originals. I spoke to Steve Cooper about this and he agrees that at best this material would be of only temporary reference interest. I called Miss Bishop, who is named on the SF 115. She said that they had questioned the permanence of this material and had asked for additional information from Ent AFB.

