THE INTELLOFAX SYSTEM

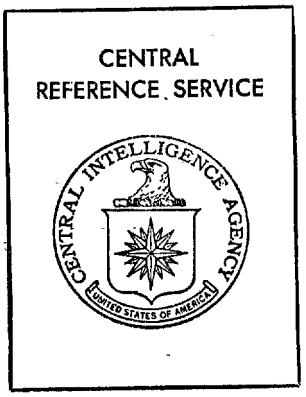
INTRODUCTION

The history of the Intellofax System encompasses many facets of the information storage and retrieval system of the Office of Collection and Dissemination (OCD) and its successor, the Office of Central Reference (OCR). Two Divisions, the Machine Division (MD) (Central Index, until May 1948 and then Machine Methods Division, until September 1951) and the CIA Library (Intelligence Document Division, until May 1948) were responsible for the development and operation of the Electric Accounting Machine (EAM)-supported document storage, reference, and retrieval system. The office reorganization of November 1956 added a third layer of responsibility—a new Document Division (DD).

This history covers all aspects of the Intellofax System from 1947 until its demise in 1967: equipment developments and improvements, including microfilming, print service, and fast transmission of data; classification input scheme; and retrieval. A project that had great impact on the Intellofax System but was not adopted—MINICARD—is also discussed in detail.

The Intelligence Publications Index (IPI), the printed index of finished intelligence documents, is historically part of OCD/OCR's information storage and retrieval system and, therefore, appears in this chapter with the Intellofax System. ~~Its entire history is handled in sub-chapter IV~~

The effect on the Intellofax System of the Library Consultants' Survey of 1957 and the resulting Task Team Reports of 1958 is discussed in the chapter on the CIA Library because of the overall impact on the Library. of this history



Branch Reports
1953

By 1953 increased emphasis was given to indexing all available material on China by three ~~new~~ projects in conjunctions with FDD: (a) the Chinese Periodical Index; (b) Chinese Annotated Bibliogarphy (on [redacted]s); and (c) the Chinese Economic Statistical Charts (CESC). The CESC project of 3,957 items by a classifier of Chinese extraction in the Analysis Branch was completed for Intellofax by ~~February~~ March 1954

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25X1A9a

On 24 June [redacted], replaced Joseph Becker as Librarian (Mr. Becker became Executive in the AD's office), and on 7 July 25X1A9a [redacted] chief of the Book Branch, took over as Deputy Librarian. The new Library team made a plea for additional personnel. In a memo to the AD/CD, they presented statistically the growth of Library service:[37]

	1948-49	1949-50	1950-51	1951-52
Reference Questions	6,817	8,250	12,594	17,000
Documents Supplied	34,084	41,015	60,794	90,400
Books Purchased	8,184	10,760	24,436	44,100
Subscriptions Placed	2,576	4,256	3,891	6,000
Books Cataloged	4,164	4,476	4,920	7,400

b. Clipping Service

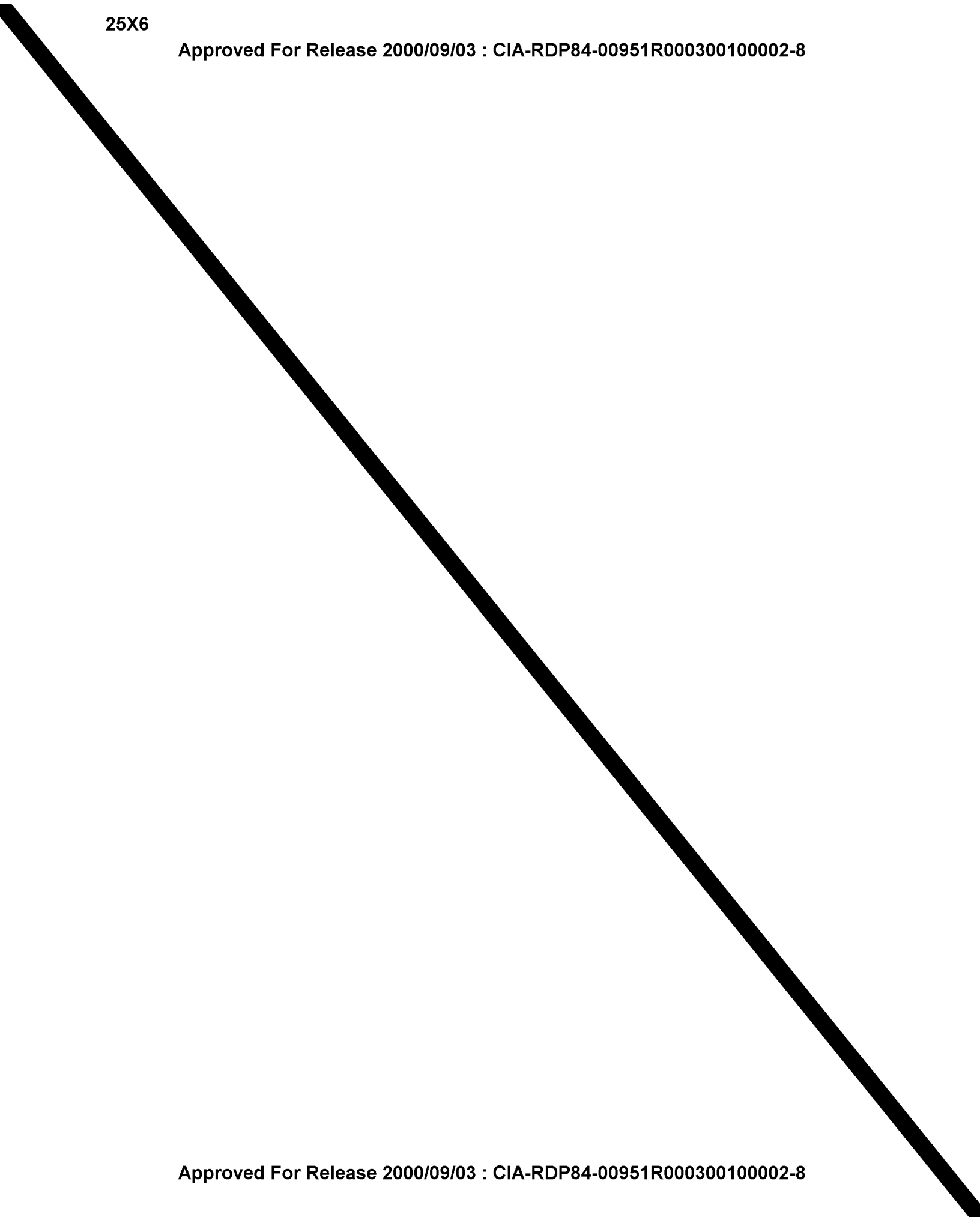
Late in 1952 (Wayne Campbell replaced Mr. Vance) at the request of the AD/CD, the Chief of the Book Branch made a survey of the usefulness of the newspaper and periodical clipping service, ~~which became a Library responsibility in 1949 (see page 3).~~ CIA customers included ~~almost~~ all offices ~~except those in~~ Administration and Management. At that time 17,000 clippings were being sent out each month based on 145 requirements from CIA customers in all offices except Administration and Management.[38] Due to the analysts' ~~hue and~~ cry of "inestimable value," and the threat of increased publication subscriptions, the service continued for another 3 years. The T/O, however, was frozen at reduced from an approved T/O of seven in 1949 to five in 1952.[39] Service was finally terminated in 1956 because of budget restrictions.

37 Memo, CIA Library to AD/CD, 23 Dec 52 sub: Additional Personnel Requirements in CIA Library. S. (in CIA Library 1952 Job 58-98/1)

38 Memo, AD/Book Branch, 15 Dec 52, sub: Survey of the Clipping Service C. (in File CIA Library 1952 Job 58-98/1)

39 Memo, Executive to AD/CD, 11 March 1949, sub: Amendment of Table of Organization for OCD. C. (in File Table of Organization-History Job 58/98/6)

CENTRAL
REFERENCE SERVICE



Approved For Release 2000/09/03 : CIA-RDP84-00951R000300100002-8

CENTRAL
REFERENCE SERVICE

~~ORE~~ Instruction

p. 5 ~~Where is Figure 2~~ — Transmitter

p. 17 Question 6. ... Source
Can vote ... — p. 45

p. 17 Figure 3 — Is it bad

p. 8 Appendix — Intelligence Chronology | Intell Brochure

p. 22 bottom — Where is June 48 Source

~~p. 41 — where is the source~~
~~Budget Bureau Comm.~~

~~When did Card last come in~~

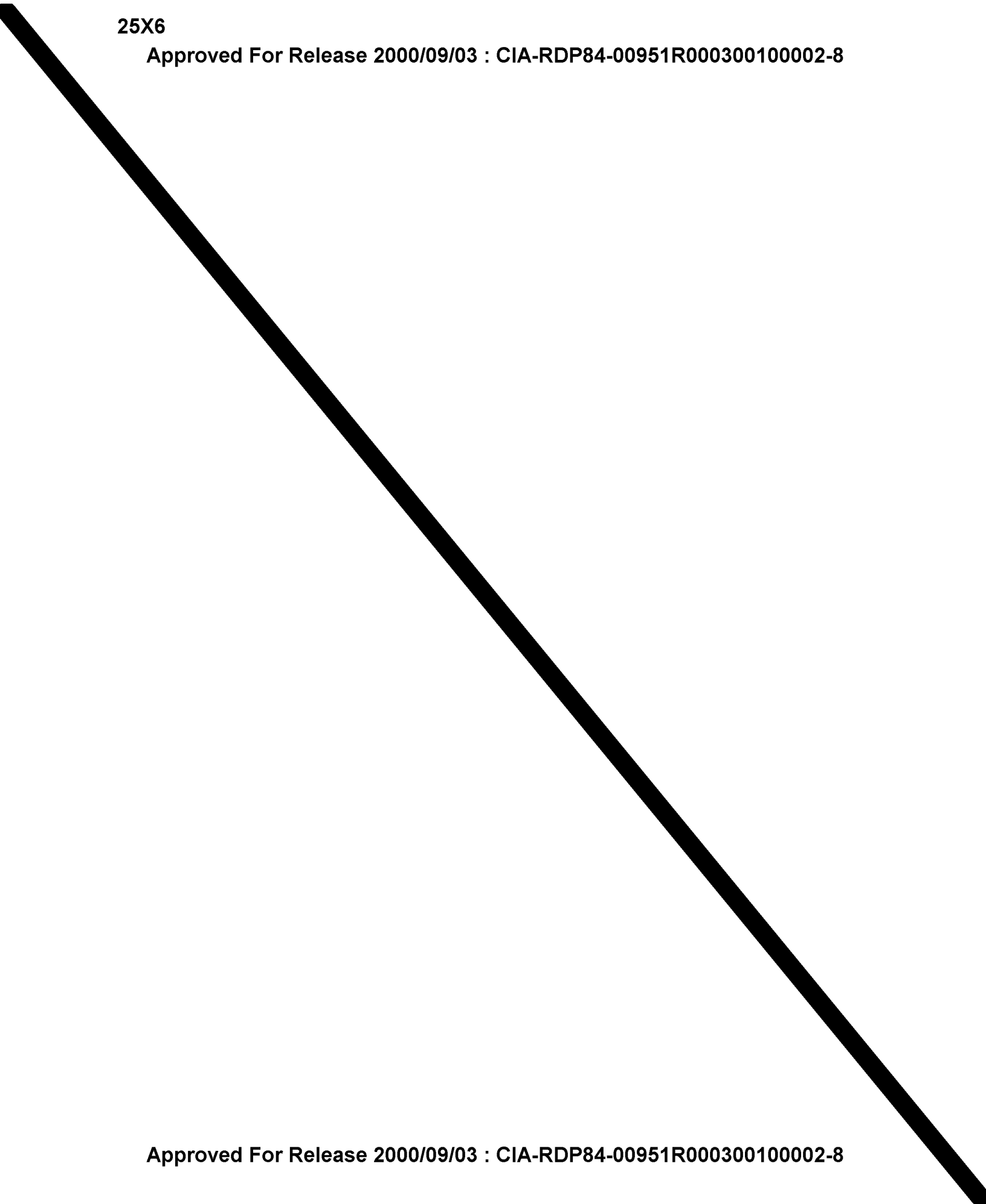
CENTRAL
REFERENCE SERVICE

25X1X8

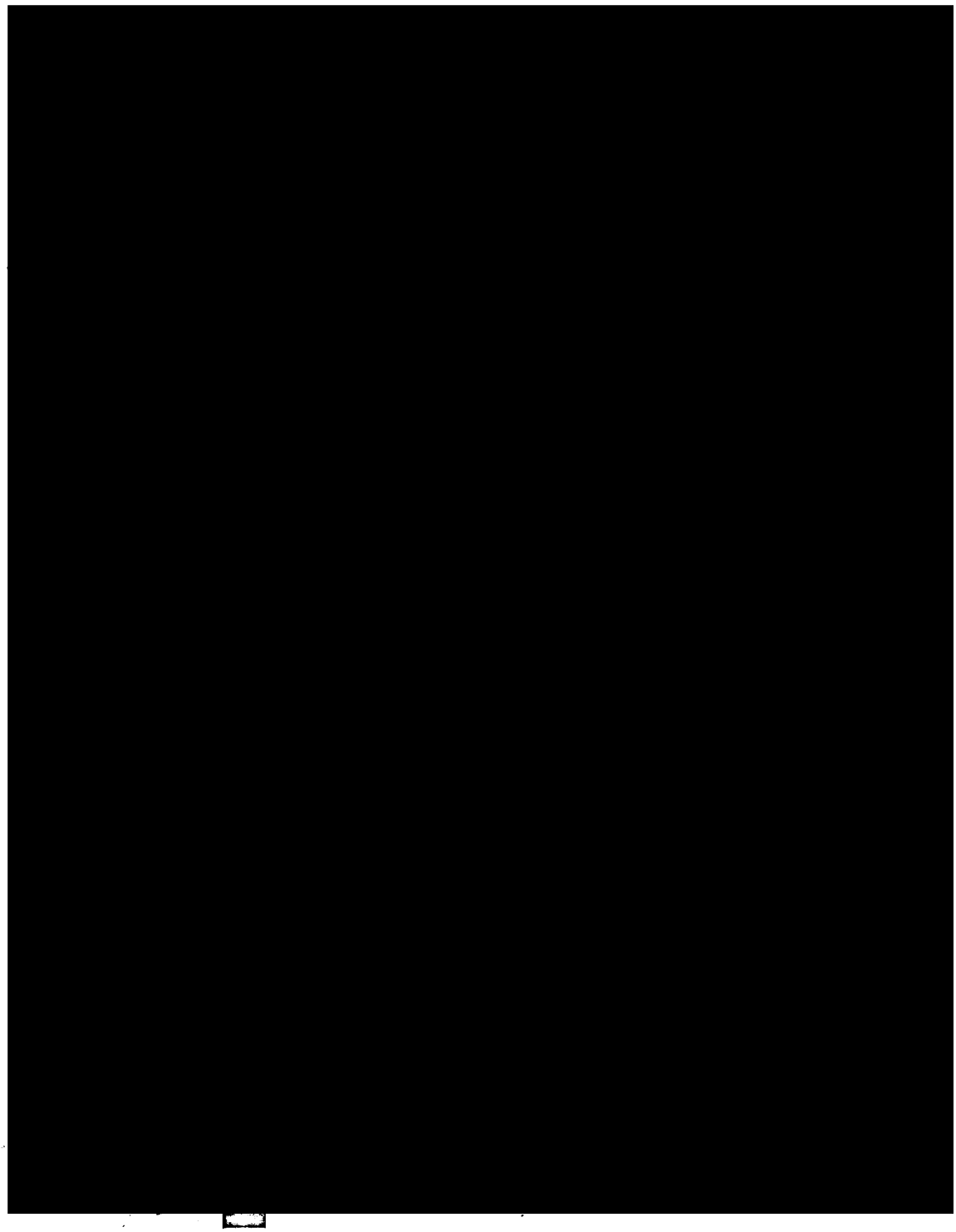
[redacted]

GROUP 1
Excluded from automatic
downgrading and
declassification

Approved For Release 2000/09/03 : CIA-RDP84-00951R000300100002-8



25X1X6



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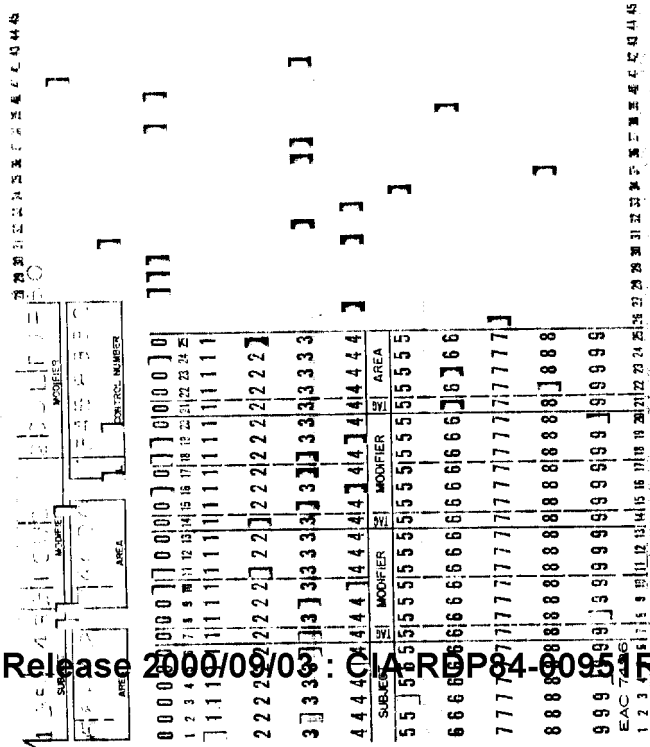
[redacted]

25X1A2g

CIA, [redacted]
URUGUAY/ARGENTINA/CHILE 7 DEC 60
ESTABLISHMENT OF A NEW BRANCH OF THE
URUGUAYAN-SOVIET CULTURAL INSTITUTE
IN RIVERA, URUGUAY, AND CO-ORDINATION
OF COMMUNIST ACTIVITIES IN URUGUAY,
ARGENTINA, AND CHILE (USE OF THE ICUS
BY SOVIET AGENTS; NETWORK OF SOVIET
INTELLIGENCE AGENTS IN URUGUAY,
25X1X8 ARGENTINA, AND CHILE; COMMUNIST
FRONT [redacted] BOOKSTORE IN URUGUAY
USED AS CHANNEL FOR TRANSFERRING
FUNDS)
(INFO SEP 60) (3)
RP C/NOFORN/CONTD CONTROL



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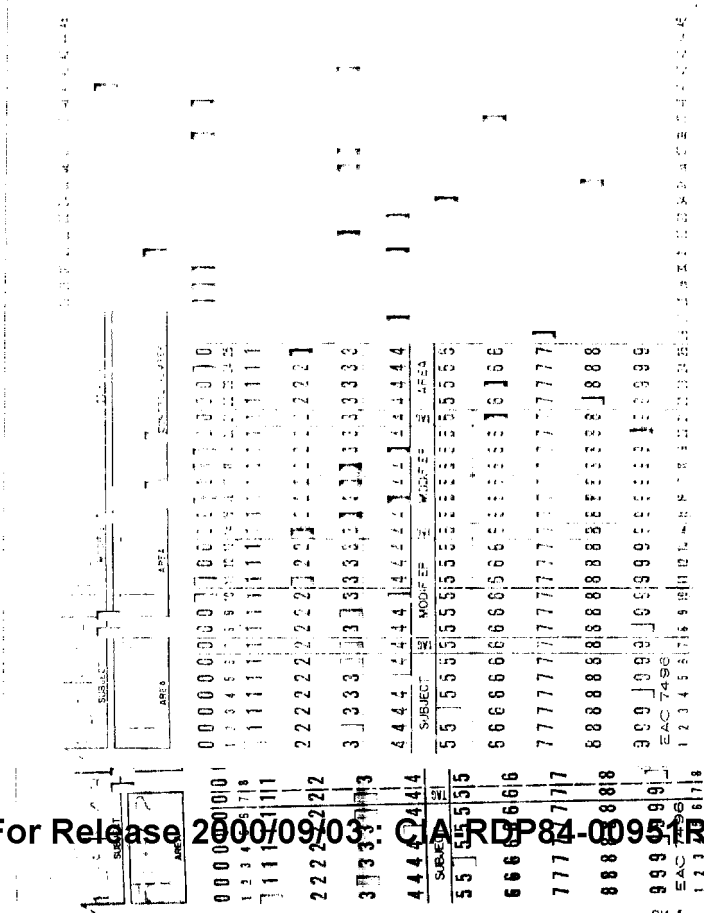
CIA, [redacted]
URUGUAY/ARGENTINA/CHILE 7 DEC 60
ESTABLISHMENT OF A NEW BRANCH OF THE URUGUAYAN-SOVIET CULTURAL INSTITUTE IN RIVERA, URUGUAY, AND CO-ORDINATION OF COMMUNIST ACTIVITIES IN URUGUAY, ARGENTINA, AND CHILE (USE OF THE ICUS BY SOVIET AGENTS; NETWORK OF SOVIET INTELLIGENCE AGENTS IN URUGUAY, ARGENTINA, AND CHILE; COMMUNIST FRONT [redacted] BOOKSTORE IN URUGUAY USED AS CHANNEL FOR TRANSFERRING FUNDS)
(DELETED SEP 66) (3)
CP C/NOFORN/CONTD CONTROL

25X1X8



25X1A2g

CIA, [redacted]
URUGUAY/ARGENTINA/CHILE 7 DEC 60
ESTABLISHMENT OF A NEW BRANCH OF THE
URUGUAYAN-SOVIET CULTURAL INSTITUTE
IN RIVERA, URUGUAY, AND CO-ORDINATION
OF COMMUNIST ACTIVITIES IN URUGUAY,
ARGENTINA, AND CHILE (USE OF THE ICUS
BY SOVIET AGENTS; NETWORK OF SOVIET
INTELLIGENCE AGENTS IN URUGUAY,
ARGENTINA, AND CHILE; COMMUNIST
[redacted]
USED AS CHANNEL FOR TRANSFERRING
FUNDS)
(INFO SEP 60) (3)

25X1X8

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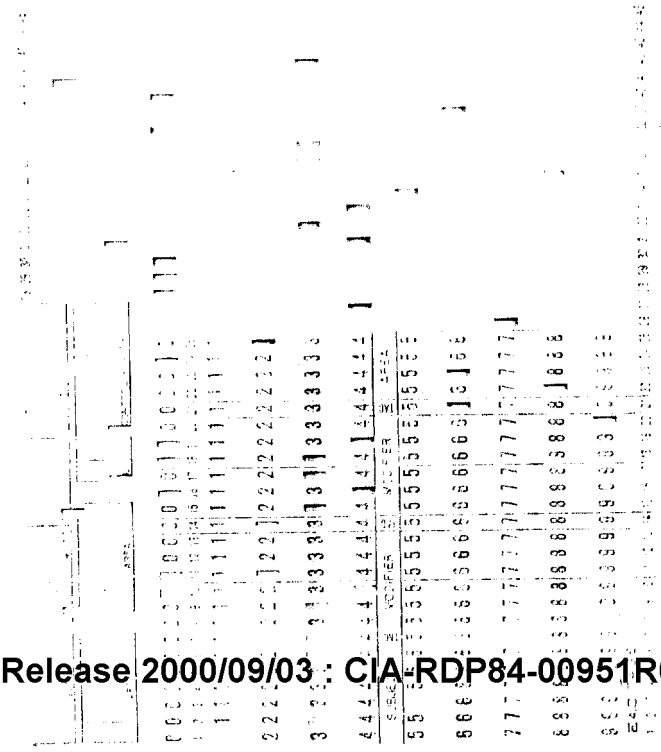
CIA [redacted]
URUGUAY/ARGENTINA/CHILE [redacted] (DEC 60)
ESTABLISHMENT OF A NEW BRANCH OF THE
URUGUAYAN-SOVIET CULTURAL INSTITUTE
IN RIVERA, URUGUAY, AND CO-ORDINATION
OF COMMUNIST ACTIVITIES IN URUGUAY,
ARGENTINA, AND CHILE (USE OF THE ICUS
BY SOVIET AGENTS; NETWORK OF SOVIET
INTELLIGENCE AGENTS IN URUGUAY,
ARGENTINA, AND CHILE; COMMUNIST
FRONT [redacted] BOOKSTORE IN URUGUAY
USED AS CHANNEL FOR TRANSFERRING
FUNDS)
(INFO SEP 60) (3)
2P C/NOFORN/CONTD CONTROL

25X1X4



Memo from Conard
N D/OCR
14 July 66
"Doc. Delivery System —
Final Recommendations"
attachment
Memo July-Dec 66
9-2-1

Document Delivery System

Definition

-Involves a large document storage system with a capability for high volume demand printing.

-DDS will be a segment of a large computer based document & information system, which, although not initially electronically coupled with the computer, must have the flexibility in design that would permit such coupling in the future.

-Will initially include only textual material= graphics and maps being handled separately; however, potential for incorporation of these materials should be considered, particularly in any automated storage and retrieval application.

- Input will initially be hard copy with a quality range from very poor to excellent; at some point in time input will probably be via electronic transmission, i.e., mag tape to film.

--Documents will be located by a "meaningful" number (includes source, date, post and sequence); file will be searched directly, i.e., counter service requests), or indirectly through a search of the computer index.

--Initially, only hard copies will be furnished in response to requests; hard copy must be the highest quality possible within the bounds of econ mic reason. CRT or television type display and electronic transmission for remote printout must be considered for the final system.

--At least two duplicate copies of all p input items will be required for file backup and special customer requirements.

--The working file will be either silver or diazo preferably the latter.

--File output will be dupli ate diazo cards which will be used for printing ot other applications.

PRESENT DOCUMENT FILE ACTIVITY

--Input for 1965 was 181,624 documents. There were 895,288 pages filmed.

--12,500 ap cards are pulled each month for viewing and/or reproduction. 20.000 pages of microfilm are produced = on quadrant printer each month.

--750 ha d copy documents are pulled each month. Most are reproduced by Xerox, but number of pages is unknown.

Document Delivery System (DDS)

For many years OCR used a 16 mm aperture card. Most other organizations discarded 16 mm for 35mm aperture card or microfiche. All R & D work leading to improvements in the microimage field were concentrating on the latter, and commercial companies were developing improved or new methods and machines for handling the 35mm aperture card. The Filmsort 2000 manufactured by Minnesota Mining and Manufacturing Co. (3 M) offered the advantage of producing automatically an aperture card for any document up to 8 pages in length. The previous process for 16 mm required three steps--microfilming using a camera, processing the film in the laboratory and finally cutting and mounting the film in each card. At an expenditure of $30,000, 5 Filmsort 2000 and 2 companion Quadrant printers were ordered. This new document delivery system was judged compatible with future CHIVE and fully automated delivery systems, such as CYPRESS.

During 1966 technical discussions were continued with 3 M for improvements in the 2000d camera/processor. The .55 density variation specified by the company as obtainable with the camera were not met during the in-house tests. Even if the camera functioned within the .55 range it appeared to be excessive in terms of possible future applications in the Document Delivery System, namely, file conversion for automated systems, electronic transmission, and rapid production printing. 3M admitted that .55 density variation was not acceptable. 3M was most anxious to satisfy CIA since many potential customers were awaiting the outcome of CIA's (particularly OCR's) deliberations. OCR agreed to await the outcome of th 3M program to determine if the company could reduce the density variations.

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On 27 May 1966 [redacted] Executive Assistant, to the D/CR recommended to the D/CR that the use of the 2000d camera offered the greatest potential for improvement over the OCR microfilming system in existence at that time. A document system employing the 2000d camera at the head of the line (microfilming before any processing) ranked foremost amongst all possible alternatives in terms of cost, systems efficiency, responsiveness to customer demands and potential for applications in file conversion, electronic transmission and high speed automatic printing. During the period of 3M work on the cameras, a team of OCR experts with assistance from Printing and Services Division undertook by further testing and countless meetings with government and commercial people to define more precisely OCR's technical requirements and to add the greatest assurance possible that any system OCR employed would offer maximum benefits and the least risk. The OCR team found no concrete evidence that it would encounter serious problems by going with the recommended system if OCR maintained quality controls consistentr with the anticipated film image quality capabilities of the 2000d camera. The team moved ahead with exploring the possibilities of using step and repeat cameras to backstop the 2000d operation, to provide an optimum means for capturing document images in the marginal categories and to provide equipment more suitable for microfilming from bound volumes.

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The seemingly optimistic picture of the 2000d cameras changed, however, and on 15 June 1966 Grant announced to the D/CR that three days of testing the two 2000d cameras which had supposedly been upgraded by 3M revealed the same bizarre density variations experienced in previous tests. This time

Document Delivery System

A considerable amount of ~~film~~ testing with the 3M 2000d cameras took place and demonstrated that it was not suitable for the type of application OCR needed. It was imadequate in terms of quality control, supply costs and manpower requirements. [redacted] therefore concluded on January 1967 that

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a. There is an immediate need to up-grade the present document delivery system in OCR, both to meet esixting demands and to insure potential for future growth and technologi advances.

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Memo to DD/P from [redacted] 11 Jan 67 "Recommendation — Doc. Delivery System" for Quarter 1967

b. The present "E" aperture card format should be chang d to the more widely accepted Mil-D card, Adoption of this format will save the Agency considerable R & D costs that would be associated with the continued use of the "E" card.

c. "Head-of-the-line" filming is an immediate requirement. It will reduce ttarn around time (receipt to file) from the present 5-7 days to less than 2 days

d. Modified step and repeat cameras will provide rapid, high quality input to the Mil-D aperture card.

[redacted]

25X1X8

he recommended that OCR initiate procurement of modified step and repeat cameras that would lead OCR into the Mil-D 8-up format. Objectives, which the currently used Mil-E system would not provide were insurance of "upward compatibility between the initially installed system and the future automatic system, so that a base of readily convertible document images may be built up in anticipation of the more advanced equipment.'" (CHIVE T-14-65) The EXA continued on 14 July reinforced his arguments for the Mil-D by including automatic image reproduction, image transmission and automated high speed printing as necessary in the upward compatibility. Total FY-1967 equipment costs for the proposed system were estimated at $114,500.

25X1A9a

[redacted]

D/CR 14 July 66
Doc Del. System
Final Recommendation
Chron July-Sept 66
71-2

25X1X8

[redacted]

OCR Annual Report FY 64

The machine language input of the Intellofax System and of the Graphics Register Ground Photography Index were programmed for an IBM 1401 in the Office of Computer Services in FY 1964. Computerizing these two operations produced significant savings in man-hours and faster input to this portion of the index files. Of particular significance was the extent to which the computer was used to generate the content of the files and to produce the source and aperture cards,

1960

High-speed equipment

Operating efficiency of the overall document storage and retrieval system was improved in 1960 as the result of the acquisition of new equipment. An IBM type 108 card selector that operated at 1000 cards per minute and two IBM 088 collators that operated at speeds up to 1300 copies per minute were installed to replace slower machines.

Army Actifilm Material

Toward the end of 1960, OCR began to receive from Army, Actifilm copies of single-copy documents with enclosures, to test the feasibility of interfiling this material with OCR's microfilm-aperture cards, thus avoiding the duplication of filming in both Agencies. The Machine Division's experiment with this system proved successful and it is now planned to accept all Army Actifilm for input to Intellofax.

Annual Rpt
1960
Folder
Box 68-487/4

1964

The card input ~~system~~ portion of the Intellofax System and the Graphics Register Ground Photography Index have been programmed fpr a computer and both operations are now being per ormed on an IBM 1401 in the Office of Computer Services. Computerizing these two operations has produced a significant savings in manpower and faster input to this portion of the index files. Of particular significance is the extent to which the computer is used to generate the content of the files and to produce the source and aperture cards.

To facilitate the servicing of requests from the Intellofax System, two automatic screening devices and one Photostat card handling printer were designed and built by the MD Equipment Service Staff. These units enabled the users to rapidly screen, select or reproduce documents which had been electrostatically reproduced on IBM cards by DARE machines. An enlarger for these cards, built by Xerox, was later introduced into the DARE System.

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No Foreign Dissem

CENTRAL
REFERENCE SERVICE

GROUP 1
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