

D  
R  
A  
F

SECRET

T # 1

THE INTELLOFAX SYSTEM  
(The CIA Library and the Machine Division)

I. EARLY DEVELOPMENTAL HISTORY (1947-54)

A. ~~Objectives and Equipment Needs~~

In providing a central reference service to CIA and the intelligence community, the early managers of the Agency recognized the need to develop a machine capability for indexing and retrieving a staggering quantity of intelligence documents. The resulting Intellofax System, which evolved jointly by the Machine Division and the library, was unique—no other government agency, no university or library and no commercial firm had anything of its type in operation. The name was coined by Dr. <sup>James M. - Assistant</sup> Andrews in 1947 to describe the system <sup>that</sup> which combined IBM and facsimile reproduction techniques for intelligence documentation purposes. Later, in common parlance, the word was used not only as <sup>an adjective</sup> [a noun] (the Intellofax System and the Intellofax files) but also as a verb form (intellofaxed and intellofaxing for the indexing aspects), and <sup>Intellofax</sup> became a household word in the intelligence community.

The actual authority for establishing the Intellofax System appeared in <sup>Office of Reports and Estimates</sup> (ORE) Instruction # 31-47, entitled Functions of the Reference Center, dated 15 July 1947.

25X1A9a ~~\_\_\_\_\_~~, Assistant Director of ORE, <sup>25X1X8</sup> charged the Central Index (later the Machine Division) and the Intelligence Documents Division (later the CIA Library) to

25X1X8

SECRET

GROUP 1 Excluded from automatic downgrading and declassification
---------------------------------------------------------------------------

SECRET

(1) index, by business machines procedures, the subject matter of all available reports, and other documents of a foreign intelligence nature and (2) classify and catalogue all intelligence

materials of a foreign intelligence nature to CIB. *Early Equipment*

*25X1A9a* [redacted], Chief of Central Index, was given the responsibility

for organizing and developing the initial essential steps toward establishing a central indexing and filing system, in conformity with an earlier <sup>Interdepartmental Coordinating and Planning Staff</sup> (ICAPS) recommendation in March 1947. It soon became apparent that no existing equipment would be capable of meeting the needs envisaged. Although an IBM punch card offered great flexibility and speed in the handling of thousands of cards, each of which would represent a particular document, no card would carry enough printed data to supply the researcher with

25X1A9a

titles and descriptions of documents. During 1947 *25X1A9a* and his deputy *25X1A5a1* met with top management of [redacted]

25X1A5a1

[redacted] to discuss the possibilities of the use of standard *25X1A5a1* Telefax machines and the *adaptation* [adoption] of these machines to the documentation problem. A Vice President ~~of [redacted]~~ said that his company would be willing to cooperate with IBM in adapting the Telefax machine to automatically reproduce bibliographic and subject abstract data typed on IBM cards onto any type of paper *that* including a duplicating medium. This would answer the problem of preparing accession lists\* and lists of abstracts requested.\* (Management originally planned for a daily accession list of these intelligence documents received and indexed, all of which would be abstracted.)

25X1A5a1

25X1X8



GROUP 1  
Excluded from automatic  
downgrading and  
declassification

SECRET

25X1A5a1

25X1A5a1

25X1A5a1

After numerous meetings with [redacted] and investigation of other companies, such as [redacted] the machine experts opted for [redacted] and a contract was let in January 1948. By July [redacted] produced the first of the Library Recorders and had completed the final design for the IBM card scanner. Both awaited <sup>1/</sup>ECG approval. Experimenting and testing continued, and in January 1949 Lear reported favorably on the equipment, commenting that

*Office of Collection and Dissemination - CCD - since 1948*

~~it was indeed gratifying and thrilling to see the first phase of this development actually operating and with such fine quality results. . . it illustrates the all-out effort that the people of the Finch Company have been and are putting into the job.~~

Progress reports were prepared periodically throughout the first <sup>6</sup> months of 1949; test runs were made during June, and the equipment was finally accepted in July. The Project Review Committee on 27 July 1949 approved an amendment to the original contract, which had been <sup>for</sup> (in the amount of) \$100,000, <sup>increase to</sup> to the amount of \$203,000. <sup>3/</sup>

The Intellofax Card, or Faxcard, <sup>(see Figure 1)</sup> was an IBM punch card of standard shape and dimensions, which bore on its face up to 200 words of printed information, the so-called bibliographic data: source, country, date, title, possible abstract, pagination and security classification. The corresponding coded, ~~and~~ punched <sup>and interpreted</sup> data appeared at one end of the card. The cards were sorted, selected and

*Original source*

GROUP 1
Excluded from automatic
downgrading and
declassification

SECRET

SECRET

arranged by standard IBM machines; and the printed information on the selected cards was transmitted and reproduced by facsimile process.

The equipment delivered in May 1950 was the second prototype resulting from the developmental engineering begun in January 1948. "Shakedown" tests were still being conducted in mid-1951 concurrent with actual usage.

25X1A9a [redacted] an Office of Communications employee

25X1A5a1 (and formerly an engineer [redacted]) was on temporary duty with OCD and placed in charge of the Faxcard equipment.

25X1A9a He wrote to [redacted] chief of the Machine Methods Division since September 1950) that since the equipment was not standard, equipment, additional development was anticipated before the stability of the equipment could be placed in a class with that afforded by existing teletype machines. <sup>4/</sup>

~~At the same time that test runs were being made on the [redacted] equipment, [redacted] investigated the potential use and availability of thermo-printers which would reproduce printed, typed or written data by a heat process.~~

25X1A9a

25X1A5a1 [redacted] Minnesota Mining and Manufacturing Company (3M) in

25X1A5a1 [redacted] was responsive to OCD's urgent need for this type of equipment and agreed to build and demonstrate a prototype of the machine by July 1949. This was the basis for the first Intellofax tapes printed continuously onto thermofax paper, somewhat similar to, though smaller than,

SECRET

GROUP 1  
Excluded from automatic  
downgrading and  
declassification

SECRET

The Intellofax tape, as it was known through the entire Intellofax history, was originally a 4-inch-wide tape prepared by the facsimile process. The Intellofax punched card was fed into a transmitter, which optically scanned the printed information. A receiver received signals from the transmitter; the printed information was impregnated into a chemically treated tape, which was dried by a heat process. The resulting continuous roll of facsimile tape was folded and ultimately given to the requester.

The early OGD managers had hoped to electronically transmit the Intellofax information to requesters in their own office locations. As of 15 May 1950, <sup>Six</sup> transmitters and 12 receivers had been delivered. <sup>(See Figure 2)</sup> Experimentation continued throughout the summer months and the first transmission was strictly local, transmitter and receiver side by side in the Machine Division. One receiver was placed in K Bldg. in the Branch Library, but security considerations and technical problems of transmission were responsible for not continuing with what seemed like a Utopian transmission phase.

25X1X8

25X1X8



The Intellofax System employed facsimile equipment throughout its first 10 years in listing Intellofax documents for analysts. During FY 59, <sup>it was replaced by</sup> a much faster card list camera <sup>that</sup> was developed by <sup>the office's</sup> OGD's Automation Development Group. He received a Certificate of Merit with Distinction and a \$250 award for his contribution.

25X1A9a

SECRET

GROUP 1  
Excluded from automatic  
downgrading and  
declassification

SECRET

3. Miscellaneous Codes

a. Security Classification

*revised*

With the completion, <sup>there would be</sup> although, continual revision, of the ISC and the adoption of the AMS Area Classification, thought was also given to other necessary codes to be punched into the IBM card for complete retrieval.

Dr. Andrews issued a memorandum on 3 January 1949 to ~~"All Hands, OCU,~~ establishing uniform codes to be used on all OCD coding operations. The Procedure Manuals of the Intellofax System (1949, 1954, 1959, 1960, 1967) show the security classifications with various controls <sup>that</sup> which evolved as more and more non-CIA requesters used the system. In 1949, in addition to the actual security

classification codes, there were only two types of controls--US Officials Only and CIA Internal Use Only. <sup>These codes</sup> Over the years, ~~others~~ <sup>more controls</sup> were added to the coding pattern so that <sup>enabled</sup> the machines could eliminate certain document citations with controls such as Controlled Dissemination, Warning Notice-Sensitive Sources, No Dissem Abroad, No Foreign Dissem, etc.

b. Source Locator <sup>13/</sup>

In June 1948 the Library issued Library Bulletin No. 1. Entitled the "Locator System," it explained that the intelligence document files in the Library had been set up according to

"A" and "S" files. An arbitrary division, it was devised for <sup>to example, 05A001 refers to an Army attaché report from Rio de Janeiro, Brazil.</sup>

*check for source designation*

SECRET

GROUP 1  
Excluded from automatic  
downgrading and  
declassification

<sup>70v</sup>  
\* See Procedure Manuals, in see ISC Archival material  
<sup>in 250 files</sup>

SECRET

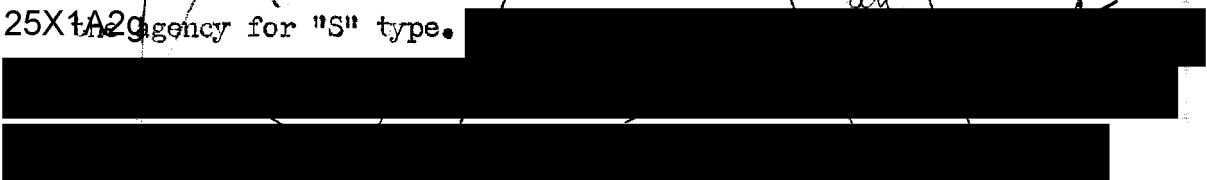
*W. J. ...*

*to ...  
detail*

practical and simplified location and filing of documents.  
 "A" files included mainly attaché reports and State  
 despatches, as well as CIA raw intelligence (OO-B's and SO's).  
 "S" files included mainly finished intelligence, intelligence  
 summaries, monthly or weekly reports, and the like. The  
 first number in the locator was a <sup>two</sup> digit code assigned to  
 a particular agency. The remaining <sup>four</sup> digits were the country and  
 the post for "A" type documents and branch and division of

25X1A29 agency for "S" type.

*25X1A29*



These ~~same~~ designations were also used for indicating the source of the document on the Intellofax punch card.

By 1 June 1949 it was necessary to issue a second bulletin because of numerous changes in organizational divisions of government agencies. In the intervening year, in addition to the "A" and "S" type categories, four more had been added: "C"—correspondence and Executive Registry material, "G"—basic intelligence studies, "L"—bibliographies and "P"—press. By February 1950 these arbitrary ~~type~~ designations were no longer punched in to the Intellofax card.

The <sup>six</sup> digit source locators remained basically unchanged until May 1954 when specific city or post locators for Army, Navy and Air attaché reports were no longer considered necessary

SECRET

GROUP 1  
 Excluded from automatic  
 downgrading and  
 declassification

← ~~for retrieval~~. By January 1956 only the <sup>two</sup> digit source locator was used for everything except CIA, foreign government reports and Top Secret documents.

- 01- Air
- 02- CIA
- 03- Navy
- 04- State
- 05- Army
- 06- Defense in general
- 07-11 Other government agencies
- 15- Executive, Legislative and Judicial Branches
- 16- Non-Government
- 17- International Organizations
- 18- Foreign Governments

*Handwritten scribble*

The coding schemes described in the previous pages provided selectivity in retrieval. Requesters were always urged to be as specific as possible on subject requests and not to ask for too general a subject, such as Politics (the entire 100 chapter of the ISC) -- <sup>25X6</sup> [redacted]. The only reason for a <sup>six</sup> digit ISC was to pinpoint specific subjects, if possible. Provincial breakdowns of USSR and China helped area specialists. Requesters were also reminded that the date of publication was punched in the IBM card. Why ask for all years when only 1950 was needed? Security classification and source specificity were part of the retrieval picture, although not requested as often as subject, area and date limitations. Requesters sometimes thought they knew the source of a document, and they proved to be wrong when a rerun was made for all sources. The same was often true about date.

The following is a typical request using all the code selectivity:



SECRET

Communist Party penetration of labor organizations in France during 1949-50. CIA document (SO) only.

Through Confidential.

Original card format

114,562	Subject code	(columns 1-6)	↓
61	Country code	(columns 7-10)	
49-50	Dates	(columns 24-25)	
02-0404	Source	(columns 13-20)	
3	Security classification	(column 12)	

4. Abbreviation File

A reference tool which the classifiers found a need for as early as January 1949 was a list of abbreviations of organizations which appeared in intelligence documents. A manual file of 3" x 5" cards was established out of necessity because there was no one list of abbreviations, particularly of a classified nature, which met the complete need for identification. A statement of functions of the CIA Library in September 1950 included : "Maintain and service a central file of abbreviations and code names for intelligence documents."

Established originally because of an indexing need, the growing (49,000 by 1959) <sup>not only by the cards for indexing but referred to it</sup> Abbreviation File was also used by the reference librarians when published lists of abbreviations did not answer specific reference queries. The card contained the abbreviation, the area, the title translation the foreign title, a brief descriptive comment, and the source of offices throughout CIA, particularly FDD, supplied hundreds of abbreviations and their identification to this File. A note appeared in

SECRET

GROUP 1  
downgrading and  
declassification

SECRET

25X1X7

the front of the CIA Telephone Directory under services of the CIA Library encouraging requesters to make use of the File. In 1954 a publication was distributed

entitled "<sup>Part I.</sup>Abbreviations of U.S. [redacted] and International Organizations of Intelligence Interest " (CD # 13), and <sup>revised in 1956</sup> <sub>(CR/6)</sub>

<sup>Part II on</sup> ~~Thereafter~~ requests were received to publish ~~certain segments~~ <sup>other</sup> of areas interest, such as all Russian abbreviations, but <sup>because</sup> there ~~the~~

had been no attempt to confirm translations or even the correct foreign language title, <sup>it was considered for</sup> <sub>revisions an undertaking.</sub> <sup>(The #1 manual</sup>

Abbreviation File was replaced in 1960 by the Dictionary of Organizations adopted with the revised Intellofax <sup>see discussion under 7</sup> System. The actual cards were kept for retrospective searching until 1971.)

SECRET

GROUP 1  
Excluded from automatic  
downgrading and  
declassification

SECRET

*MA*

Coding specificity was also achieved in another manner. A list of languages, minorities and cultures was prepared and coordinated with Andrews (his specialty) and the <sup>three</sup> digit identification could be combined with either the 117 code for minorities or the 876 code for foreign languages. For example, the <sup>25X6</sup> [redacted] minority was coded 117.119 and the <sup>25X6</sup> [redacted] language was coded 876.119.

*Back in*

Statistics compiled for the Intellofax System indicated that an average of four subject codes were assigned per document.

SECRET

GROUP 1  
Excluded from automatic  
downgrading and  
declassification

Source card

SECRET

*Handwritten scribbles and a vertical line on the left side of the page.*

document number, but might know the source and/or year.

The source cards were filed <sup>first</sup> by source, <sup>then by</sup> year of publication, <sup>with</sup> specific post or agency breakdown and document number.

A brief title description of the enclosure, <sup>and a notation as to</sup> ~~also~~ whether

it was received or not received, microfilmed or not

microfilmed, appeared on the card. After the librarian

in the Circulation Branch had identified the document,

she could then find it in the files--either in <sup>the</sup> hard copy

files maintained in the same sequence as the source card

file <sup>the inauguration of the program in 1954,</sup> on after 1954 ~~on microfilm~~. The approach to the <sup>aperture card</sup>

~~microfilm~~ was only through the document control number

<sup>that</sup> ~~which~~ appeared on the source card:

"D"+control number--- on 16 mm. aperture card

"C"+control number-- on 35 mm. reel

"V"+control number-- not microfilmed and in hard copy

<sup>until 1963</sup> The source card <sup>that</sup> ~~which~~ was prepared for NODEKES

<sup>that is</sup> contained only an abbreviated bibliographic entry, ~~i.e.,~~ source, document number, date and security classification.

The title and country were not entered. This abbreviated <sup>when searching</sup> notation saved typing time, but created problems for the

Circulation Branch librarians who searched the Source

<sup>25X1X8</sup> Card ~~File~~ for document identification. <sup>with the addition of DARE groups and for interpretation of first post only the date file</sup>

