## ARLINGTON HALL STATION

Date _____

TO                          FROM

_____ Commanding Officer _____
_____ Executive Officer _____
_____ Asst. Executive Officer _____
_____ Adjutant _____
_____ Asst. Adjutant _____
_____ Chief, B Section _____
✓ _____ Chief, C Section   Lt Col. Cook
_____ Chief, D Section _____
_____ Chief, E Section _____
_____ Chief, F Section _____
_____ C.O. of Troops _____
_____ Dir. of Com. Research   Maj Rowlett
_____ Personnel Officer _____
_____ Quartermaster _____
_____ Provost Marshal _____
_____ File Room _____

_____ Comments & Return _____
_____ Recommendations _____
_____ Information _____
_____ Information & Return _____
_____ Inf. & Forwarding _____
_____ Your Inf. & File _____
_____ Signature, if approved _____
_____ See Note on Back _____
_____ As Requested _____
_____ As Discussed _____
_____ Your Action By _____

In view of Col. French's selection
believe it is just as well that he
did not see this paper. However, would
like to retain it for future reference,
to compare the notes herein with what
Lt Col Jones recommends

Maj Rowlett

**WAR DEPARTMENT**

OFFICE OF THE CHIEF SIGNAL OFFICER

WASHINGTON

SPSIS-3

March 18, 1943

Subject:    Use of SIGABA in Conjunction with Standard
IBM Codatype Units.

To:       Colonel Cook

Secret
By Authority of the
Chief Signal Officer

Initials       Date

1. A demonstration was held at Arlington Hall Station, March 16, 1943, at 1400 with the following persons present: Major Kuhn, Major Rosen, Captain Cooley, Captain Giles, Lt. Hardie, Lt. Shinn and Mr. A. C. Holt of International Business Machines, Inc.

2. In order to set up this equipment for experimentation the following changes in the SIGABA were necessary:

    a. Clutch Trip Magnet operation (exclusive of the lock-up circuit) taken away from the SIGABA print circuit and given to the IBM Operating Unit.

    b. *300 ohm resistor inserted in series with the SIGABA print circuit to compensate for change a.

    c. *Double-pole double-throw toggle switch inserted in the above circuits to provide for operation with the IBM equipment or for normal independent SIGABA operation.

3. As a result of the above changes it is possible to take radio type tape directly from the enciphering operation of the SIGABA as well as getting a page copy of the enciphered message eliminating the necessity for pasting up tape. On deciphering, radio type tape is taken directly from the radio circuit eliminating the retyping operation. Decipherment is automatic through the SIGABA giving a page copy of the clear text eliminating the pasting operation.

4. During the demonstration the following observations were made:

    a. Machine has a running speed of from 260 to 270 characters per minute on automatic decipherment.

* Standard Teletype SIGABA Parts

SPSIS.461 Codes
(Mar. 18,1943)


b. The machine can be run steadily for eight hours whereas even a good operator could not operate a SIGABA steadily for that number of hours.

c. An operator would ordinarily be required to sit at the machine therefore it would not reduce need for personnel.

d. It does not take any longer for a good man to paste up the same length message. Also any additions or deletions can be made by the clerk under normal independent SIGABA operation whereas on the machine changes cannot conveniently be made.

e. It is subject to the normal errors in tape and messages.

f. There is a considerable amount of equipment tied up which could better be used elsewhere.

g. Wiring changes would have to be made in any SIGABA used in conjunction with this set-up.

h. About the only argument for the machine is the time saving factor, and that seems questionable.

i. An actual test can be determined only by placing the machine in the Code Center working under heavy traffic conditions.


Frank B. Rowlett,
Major, Signal Corps