

Chief, War Department Signal Center 3C340 Pentagon

THRU: Chief, Army Communications Service

Experimental Assembly of Sigaba with Page Printer.

SPSIS-3

17 Nov. 43

Signal Security Agency

3C340

Code 8129

1. At your earnest solicitation an experimental combination of a Sigaba with the Electromatic typewriter of the SIGMYC (Converter 134-A) has been assembled and tested. The set-up will be maintained for a few days in case you wish to examine it.

2. The conclusions reached as a result of our study of this experimental combination are as follows:

a. Advantages.--There seems to be only one advantage and that of doubtful importance, namely, the combination will provide a page print. This feature would save time and labor necessary to paste down the present slip tape coming from the Sigaba. However, the advantage would be important only in the case of outgoing messages since in the case of incoming messages the copies would have to be emended before the necessary number of copies can be produced for distribution.

b. Disadvantages.--(1) The combination is considerably more complex than the Sigaba alone, maintenance difficulties would be considerably increased and special training would have to be added for the Sigaba maintenance men who at present know little about the maintenance of Electromatic typewriters.

(2) It is believed that there would be a net reduction in speed of operation because it is necessary to pause at the end of a line for carriage return. If this pause is made the next character will be printed "on the fly" which would cause the character to appear somewhere near the middle of the next line. The operator would, therefore, first have to stop and make a correction or a letter would be lost and one would be overprinted.

(3) It would be difficult to arrange for tandem operation.

3. Your comments or inspection of the experimental assembly are desired.

W. Preston Jordanman
Colonel, Signal Corps
Chief, Signal Security Branch
Code 8129 18 Nov. 43
SPSIS-3

SIGABA-SIGMYC Combination

1 Colonel
Corderman

1. At the solicitation of Colonel French, the Electromatic Typewriter part of the SIGMYC (Converter 134-A) was connected to a Sigaba and the assembly was examined by several of us this morning in F Branch. The following represents the conclusions reached by Colonel Allsopp, Major Rosen, Major Kuhn and myself.

a Advantages.—There seems to be only one advantage, and that of doubtful importance, namely, the combination will provide a page print. Colonel French himself admits that page print is useful only in the case of outgoing messages where a single copy is all that is required. In the case of incoming messages many copies are required and these obviously cannot be produced by the machine. In practically all instances, furthermore, the single copy produced by the machine must be emended and typed over again. It is granted that in the case of outgoing messages, a page print will save the time and labor necessary to paste down the present slips coming from the Sigaba, but it is believed by us that this time represents only a small fraction of the time required to process an outgoing message.

b. Disadvantages.—(1) The combination requires additional equipment (Electromatic Typewriter equipped with selenoids), the cost of which is approximately \$550.

(2) The combination necessitates certain modifications in the Sigaba, which would then make the latter non-standard.

(3) The combination is considerably more complex than the Sigaba

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SIGABA-SIGMYC Combination (cont'd)

alone and would, therefore, be more subject to breakdowns and to more frequent operational stoppages than are now encountered in the Sigaba alone.

(4) Maintenance difficulties would be considerably increased because of the changes in the Sigaba and because of the necessity for maintenance on the Electromatic Typewriter. Moreover, Sigaba maintenance men are now not trained in maintenance of Electromatic Typewriters and would have to be taught.

(5) Increased difficulties with respect to training operators since the method of operating the combination is quite different from that of operating the Sigaba itself.

(6) There would be a net reduction in speed of operation because in the first place it would be necessary to pause at the end of a line so as to give the carriage time to return to the left. If a pause is not made at the end of the line, waiting for carriage return, the next character is apt to be printed "on the fly" when the carriage is returning, which would cause the printing to take place somewhere near the middle of the next line. The operator would, therefore, either have to stop and make a correction or a letter would be lost and one would be overprinted. Furthermore, the necessary time-interval between groups of 5 letters (for spacing) in the case of the outgoing messages, or between words, in the case of incoming messages, would require some slight slowing up of operating speed, because this time-interval is a little bit longer than that required for the Sigaba printer.

SIGABA-SIGMYG Combination (cont'd)

1 Col.
(cont'd) Corderman

(7) It would be difficult to arrange for tandem operation, thus losing this important advantage.

(8) Electromatic Typewriters are very scarce and a higher priority for their usage is necessary for certain Arlington Hall operations requiring them.

2. It would appear that the disadvantages greatly over-balance the single advantage noted above.

3. This report is submitted with a view to enabling you to reach a decision as to whether or not you wish to show the combination to Colonel French or to discuss the matter with him.

W.F. Friedman
Dir. Com. Res.
SPSIS-3
Ex. 215
12 Nov. 1943