

1 May 1945

EQUIPMENT BRANCH

MAINTENANCE SECTION

VE-DAY EQUIPMENT ASSUMPTIONS

1. VE-Day should not present any insurmountable problems on the handling and reconditioning of those cryptographic equipments for which the Signal Security Agency is responsible.

2. Reconditioning and storage of SIGABA, SIGCUM, and possibly 131 equipment appear to be the principal items for consideration on VE-Day and Period 1.

3. It is anticipated that eventual Pacific requirements for cryptographic equipments will be equal to and/or possibly greater than the current ETO requirement, with considerable emphasis on radio communication.

4. It is assumed that no large scale requirement for reconditioned cryptographic equipments will be evidenced for the first six (6) months of Period 1. However, in the event that the ETO retains a large percentage of their current equipment for a considerable time, and a surge of Pacific requisitions materialize, it is anticipated that the following reserves will "hold the line" until such time as those equipments which are returned from ETO can be reconditioned and therein become available for shipment to the Pacific:

	<u>SIGABA</u>	<u>SIGCUM</u>
SSA WAULT	222	120 (71 of this number must be converted from synchronous to universal operation, a 1/4 to 1/2 day job per machine.)
SWPA	86	251
POA	5	80
TTY CORP.	500 (Increments of 50 per mo. Total delivery to be completed Oct. 45)	None (Production line currently shut down.)
	<u>813</u> Actual total	<u>451</u> Actual total
TTY CORP.	700 (Contemplated contract pending.)	
	<u>1513</u> Potential total	

It is to be noted that Teletype Corporation may be considered as a second source for reconditioning SIGABA and SIGCUM equipment only when they complete their current contract for SIGABA's (October 1945), and if they have no further cryptographic equipment production contracts at that time.

2. SIGJIP does not constitute a major problem at this time because of the limited number of units in the ETO. In addition, that theater has been requested to return their 132 units to the SSA. At the present time there are 61 SIGJIP's in the SSA vault, and 500 on order. Potential SIGJIP problems are contingent upon determination of the pending AGF requirements. It is to be noted that if the classification of the subject device is reduced to RESTRICTED the SSA will have minimum responsibility for the device insofar as equipment maintenance is concerned.

3. It is contemplated that SIGSALY activities will remain substantially unchanged during Period I. Period IV storage of the equipment at the SSA or New Cumberland vaults is not considered feasible when 30 tons per terminal weight is considered. It has been conceived that the terminals might remain installed at strategic points throughout the world - operated by U. S. military personnel for use by military attaches and State Department officials. Pending CEB survey may throw more light on the subject. The final storage problem is, of course, not pressing.

4. Storage & Issue Agency is responsible for procurement, storage, and issue of the Converter M-209, and the several Signal Depots are responsible for its maintenance. It can be conceived, however, that when tactical organizations return to the U. S. for rehabilitation, S & I will replace their M-209's, and if the ensuing reconditioning work load gets staggering, request the SSA to assist in the task. However until such time as the SSA should receive a directive indicating responsibility for the reconditioning of the subject device, it is considered inadvisable to go into the matter.

5. Providing the AM/GSQ-2 is not procured in greater quantities than the contemplated six (6) terminals, final storage could be affected at the SSA warehouse.

6. It is estimated that those SIGABA's and SIGCUM's to be returned here for reconditioning and transshipment to the Pacific can be adequately handled insofar as physical facilities are concerned. It is assumed that much of the storage required will be of a transient type, i. e., equipment will be received, reconditioned, reshipped immediately, or reshipped after a short storage period. In the event that the SSA vault space is not available for the transient storage it is recommended that the equipments be stored at convenient locations within Operations "A" Building, utilizing a procedure similar to that now being followed by Distribution Section, C Branch, for overnight storage.

7. Maintenance Unit, Section F-3, has a personnel strength of 33, of which approximately 10 are qualified for SIGABA maintenance, 10 qualified for SIGCUM maintenance, and the remaining 13 being engaged in administration, supervision, and miscellaneous maintenance such as STWOSE,

SIGWIN, SIGJODO, SIGTOT Tape Production equipment maintenance, Security Division Teletalk maintenance, etc. (It is to be noted that the following assumptions were made 15 April 1945. A study is currently being made to substantiate the figures or to refine the calculations.) Assuming that 2/3 of the 749 SIGABA's now in ETO are to be returned to the SSA for reconditioning, it is anticipated that the 10 SIGABA maintenance men spending an average of four (4) days on each unit could complete a reasonable reconditioning job on the 500 SIGABA's in approximately six (6) months. It is believed that the SIGCUM maintenance force could accomplish reconditioning of 2/3 of the 321 SIGCUM's now in ETO in about 1/2 the time required for SIGABA reconditioning. The 193 SIGABA's and 140 SIGCUM's in MTO have not been taken into consideration in the above calculations; their inclusion would add approximately one (1) month to the reconditioning time.

8. Although replacement part stock reserves for SIGABA and SIGCUM have been gradually increased over the past two years, shortages of certain items ~~are incurred from time to time.~~ are incurred from time to time. Thus far we have had to decide between complete machines from the factory OR increased spare parts production. It is believed however, that when the reconditioning requirement for spare parts in quantity is manifest, Teletype Corporation can be geared to greater spare parts production. That requirement will in all probability coincide with a reduction in the production of complete equipments.

9. As for periods II-III-IV it may be envisioned that that portion of the SSA warehouse now utilized by "G" Branch will be available for equipment storage. Thus SIGABA, SIGCUM, SIGWIN, and similar, or smaller equipments could be stored at the SSA without extensive preparation therefor. Eventually, steps should be taken to substantiate or invalidate these assumptions.

10. As indicated in paragraph 3 above, it is assumed that the Pacific requirement for radio communication will be considerably increased. It is believed that SIGTOT, which is rather inflexible, and SIGCUM which can be used for highly classified traffic only upon specific authorization, are not the answer to the problem. The 70 SIGJODO's authorized by General Stoner ~~will~~ should partially solve the problem.