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Office Memorandum • UNITED STATES GOVERNMENT

TO : The Files (R&D Branch)

DATE: 28 March 1957

FROM :

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SUBJECT: Operational Test of the Modified Portable Automatic Morse Keyer and Perforator,

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REF : (a) Memo O&T 56-600, dated 25 October 1956
(b) Memo O&T 56-601, dated 25 October 1956
(c) Memo ENG-6-1268, dated 20 November 1956

1. A Portable Automatic Morse Machine (Keyer KY-201, Serial #4 and Perforator TH-24, Serial #4) was modified at the R&D Laboratory to correct the operational and functional deficiencies listed in Ref. (a) and Ref. (c). An additional modification was made on the keyer by replacing and reforming the feeler contacts on the keying head.

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2. Operational tests of the modified units were conducted by the A&A Section, R&D Laboratory. The results of the perforating and keying tests follow:

- (a) The Perforator TH-24 #4 was utilized to punch and compile International Morse code groups on standard 1/4 inch mylar audio recording tape. The Perforator performed satisfactorily during these tests.
- (b) The tests conducted on the Keyer KY-201 #4 while keying an RT-3 transmitter produced accurate and satisfactory copy. Link paper tape recordings were made of the keyed transmissions as received on a Hammarlund SP-600 receiver and recorded on a McElroy RAPC Amplifier Recorder. During the final tests of the keyer, perfect copy recordings of the keyed transmissions were made.
- (c) The "Lo" speed of the keyer was 21 words per minute ± 0.5 wpm.
- (d) The "Hi" speed of the keyer was measured to be 50 words per minute ± 1 wpm.
- (e) The keyer gear train ratio is 3:1 and should provide either 20 wpm or 60 wpm keying. The 2.5:1 ratio observed during the operational tests is attributed to additional friction loads placed on the spring motor through the tape pull mechanism during hi-speed keying.

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DOC	34	REV DATE	19/3/80	BY	37169
ORIG COMP	33	OPI	56	TYPE	2
ORIG CLASS	S	PAGES	2	REV CLASS	C
JUST	22	NEXT REV	20/0	AUTH:	HR 70-2

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3. Recommendations

(a) The Perforator TH-24 #4 is considered to be an acceptable engineering model. 50X1

(b) The Keyer KY-201 #4 is considered to be an acceptable engineering model. The keying tests indicate that the keyer performance is good; however, considerable adjustment of the keying contacts was necessary to produce perfect copy transmissions during hi/lo speed keying tests. Long-time reliability tests were not made on the keyer because of the lack of time. 50X1



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Attachment: Test Tape

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