

~~SECRET~~

~~CONFIDENTIAL~~

Office Memorandum • UNITED STATES GOVERNMENT

TO : Chief, Engineering Division, OC

DATE: 25 OCT 1956
O&T 56-600

FROM : Chief, Operations and Training Division, OC

SUBJECT: Operational Evaluation, Portable Automatic Morse Keyer,
[] (PAMM)

50X1

1. The Operations and Training Division has completed a preliminary operational evaluation of the [] Several defects were noted and are described in the following paragraphs together with some suggestions for improvement.

50X1

a. The keying is erratic. This is due to either poor design or mal-function of the keying head, or both. Two unsatisfactory features of the keying are:

(1) The locking device on the moving segment of the head has excessive play permitting variation in the position of the back key contact.

(2) The spring which holds the rear keying contact appears too flexible. This spring tension should probably be adjustable.

b. The perforator does not always cut the morse character perforations parallel to the tape sides nor are they always centered on the tape. This is very likely a contributing cause of the erratic keying. The perforations are mis-aligned due to the fact that the plate covering the chad box and tape punch slot is not held firmly closed due to weak spring tension. This permits the tape to move vertically in the punch slot with the motion of the operator and causes the characters to be cut at an angle or off center.

c. The cord connecting the keyer to the transmitter is entirely unsatisfactory. It is much too large in diameter and too inflexible. This cord should be replaced by one more suited to miniaturized equipment and should be equipped with a disconnect plug at the keyer end and phone tips at the other end.

d. The slow keying speed should be increased to approximately 20 WPM instead of the present 10 WPM.

DOC	26	REV DATE	19/3/90	BY	37169
ORIG COMP	33	OPI	56	TYPE	2
ORIG CLASS	S	PAGES	4	REV CLASS	C
JUST	22	NEXT REV	2010	AUTH:	HD 70-2

~~SECRET~~

~~CONFIDENTIAL~~

SECRET

CONFIDENTIAL
O&T 56-600
Page 2

e. The keyer would probably be operated with the cover open under actual operational conditions to expedite tape reruns. It should be possible to rewind the spring motor without closing the cover and thereby risk damage to tape in the machine.

f. The covers over the tape slots on the perforator do not have a positive lock action in the open position and interfere with the tape movement.



50X1

SECRET

CONFIDENTIAL

Handwritten notes:
The
1/28/56
361
Baker
Baker

Handwritten scribbles and numbers:
1/28/56
361
1

- (a) Erratic keying - provide positive positioning of the keying contacts to insure proper action when keying.
- (b) Chad box cover - assure positive closure on chad box cover.
- (c) Interconnecting cord too large and bulky - install Telex Quick Disconnect receptacle on keyer box and supply a Telex cord with phone tip connectors on one end and Telex plug on the other.
- (d) Increase slow keying speed from 10 to 20 WPM - change the gear ratio. Estimated time is 35 days of which 30 days is procurement time on two gears required if these gears can be obtained from a manufacturer's stock. The procurement time will be 90 days if they must be made to order.
- (e) Provision for winding motor while reels are turning with cover open - build a plastic winding key to fit over the fingers of the winding mechanism.
- (f) Tape perforator slot covers do not positively lock in, open position - reform slot cover holders.
- (g) Vertical wobble on take-up reel prevents operation of the keyer when the cover is closed since reel strikes cover. Machine clearance in case.
- (h) Inconsistent spacing between letters and words - increase spring tension on the indexing pressure roller.

Word Spacing

1. Humidity test reveals rust on screws which was sufficient to jam the perforator. ~~Replaced~~ Plated where necessary.
2. 200,000 ~~operation~~ *operation* life performance ~~to be replaced with~~
Spring failed at 15,000 ops. To be replaced with ~~do corrected~~
3. Spools with more cridided gears.
4. 250,000 operation with punch ok

Handwritten scribbles and text:
~~translation of~~

Handwritten text:
COMMUNIST

Stylus of R. Nixon (woman)

Drop dots due foreign material (oxide)
cleaned with paper wiper above
put tape in with glossy surface towards
stylus: (contacts)

Investigate rotation contact so that
stylus sees new surface end in self
cleaning

ROUTING AND RECORD SHEET

INSTRUCTIONS: Officer designations should be used in the "TO" column. Under each comment a line should be drawn across sheet and each comment numbered to correspond with the number in the "TO" column. Each officer should initial (check mark insufficient) before further routing. This Routing and Record Sheet should be returned to Registry.

FROM: OC-O&T/SB	NO. O&T 56-600 2052
	DATE 25 OCT 1956

TO	ROOM NO	DATE		OFFICER'S INITIALS	COMMENTS
		REC'D	FWD'D		
1. Chief, OC-E			10/26	[Signature]	cc sent to R&D / LAB
2. R&D			29 OCT 1956	[Signature]	
3. R&D/EP			30 OCT 1956	[Signature]	2-3. Are your personal
4. CEM			12/12	[Signature]	comments to [Redacted] 50X1
5. R&D			12/13	[Signature]	line waiting for lab report for [Redacted]
6.					lab report much better and discussed in detail with [Redacted] 50X1
7.					and [Redacted] visit. They agree and would try to correct defects of with our procurement of 6 units. The road and new speed would need at least [Redacted] customer concurrence; [Redacted] 50X1
8.					[Redacted] 50X1
9.					
10.					
11.					
12.					
13. R&D/EP					File [Redacted] 50X1
14.					
15.					

SECRET

CONFIDENTIAL

UNCLASSIFIED