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19 December 1957

RD-122

MEMORANDUM TO THE FILES

FROM: [redacted]

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SUBJECT: Preliminary Evaluation of TP-3, Hellschreiber Transistorized Printer

1. Two TP-3s, serials #462 and #463, were given a preliminary evaluation during the week of 9 December 1957. The units were tested on both 1000 cycle tone modulated and on-off type signals. The originating points for the test signals were [redacted] and commercial hellschreiber stations [redacted]. Due to frequency propagation limitations, it was necessary to resort to the 51-J4 receiver to cover the [redacted] broadcast on [redacted] and the [redacted] that are copyable are in the 23 to 25 mc/s band. This was due to an upper limit of reception capability NOT due to a compatibility problem between the printers and any of the [redacted] we now possess.

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2. Both printers were operated with the following receivers: RS-6, RS-6A, RS/A-11, RS-28, and the 51-J4. In either case, tone modulated or on-off keying originating at [redacted] the printed output was readable with difficulty on [redacted] equipment. The readability was no better on the 51-J4. Both 'fox' and simulated traffic was originated by [redacted] for these tests. In the case of hellschreiber signals originated in [redacted] (on-off type keying; 51-J4 receiver) the tape was perfectly readable. For this test the crystal filter and the mechanical filter were used in an attempt to duplicate the band width of some of [redacted] receivers. In both instances the received signal strength was comparable. It is believed that the readability difference was due to a difference in quality of the originated signal.

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3. There were only minor difficulties encountered in the use of the units which gradually smoothed out as the operators became more familiar with the equipment. The most outstanding defect was that the governor on unit #462 was malfunctioning. After several hours running time the governor apparently began to 'wear in' and started to function properly. The evidence of this malfunction was an extreme downward slant of the printing. This slant was maintained regardless of the condition of the power supply. Any battery pack when used with #462 gave this slant and the same packs when used with #463 operated perfectly as to downward or upward trend of lettering.

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4. It is intended that the EF-3 will be evaluated under full field conditions during the coming RS-16 tests.



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