

~~SECRET~~

HTT
P-144A

CONFIDENTIAL

29 October 1957

DOCUMENT NO. 17
NO CHANGE IN CLASS.
 DECLASSIFIED
CLASS. CHANGED TO: TS S 6 2010
NEXT REVIEW DATE: _____
AUTH: HR 70-2
DATE: 22 JAN 1980 REVIEWER: 037169

MEMORANDUM FOR: C/TSS/ASD

THROUGH : AC/TSS/RAD
AC/TSS/TA

SUBJECT : Power-line carrier-current surveillance systems

1. The Applied Physics Division has been engaged in the development of power-line carrier-current surveillance systems in two projects. The first of these is based on the [redacted] system and was established to produce a limited number of systems for engineering and operational evaluation.

50X1

2. Twenty of these systems (produced by [redacted] were delivered and locally subjected to preliminary life-testing and engineering evaluation. These units were returned to the contractor for correction of deficiencies and eighteen units have been modified and returned to APD. These units have been operated for 100 hours without failure or degradation of performance.

50X1

3. The second project (with [redacted] has produced a system with a number of characteristics superior to that of the [redacted] units. Among these characteristics are: (a) greater audio gain, (b) better signal-to-noise ratio, (c) better audio fidelity, (d) much smaller size of transmitter, and (e) lower power consumption and heat dissipation.

50X1

50X1

4. A comparison of the two systems has led to the decision to set aside any further interest in the [redacted] units.

50X1

5. As a result of this decision there is no need to subject the [redacted] units to a formal test and evaluation program since such would serve no valuable purpose.

50X1

6. The foregoing decisions, however, should not be interpreted as meaning that the [redacted] systems are of no value to the audio surveillance program. On the contrary, these units are capable of field use providing the limitations are not exceeded. These limitations include: (a) do not operate the equipment in enclosed spaces (without adequate ventilation) for extended periods of time, (b) do not install transmitter where the microphone must be so concealed as to not receive enough acoustical input level, (c) do not attempt to operate at distances in excess of 50-100 feet unless a preliminary check for intelligibility and noise background is made, and (d) do not attempt a permanent operational installation.

50X1

~~SECRET~~ CONFIDENTIAL

~~CONFIDENTIAL~~

Memorandum for C/TSS/ASD dated 29 October 1957
Subject: Power-line carrier-current surveillance systems

7. Some suggested uses for the [redacted] units include:

[redacted]

50X1
50X1

8. In view of the limitations and possible uses, it is recommended that the [redacted] units be made available to the Audio Support Division for possible interim field use, with the admonition that each installation be checked for intelligibility before the intended surveillance use.

50X1

9. Since the [redacted] systems provide a superior capability, a lot of one hundred transmitters and fifty receivers is to be procured for further engineering and field evaluation.

50X1

[redacted]

C/TSS/APD/KB

50X1

APPROVED:

C/TSS/APD

Distribution:

- Addressed - Orig. & 1
- AC/TSS/R&D - 1
- AC/TSS/TA - 1
- TSS/ENB - 1
- TSS/APD - 2

TSS/APD [redacted] (29 October 1957)

50X1

~~CONFIDENTIAL~~

CONFIDENTIAL