

19 January 1956

MEMORANDUM FOR: THE RECORD

SUBJECT : Visit to the National Bureau of Standards

1. Time and Place of Meeting: The meetings were held at the National Bureau of Standards, 13 January 1956.

2. Attendance:

Mr. Koidan	Sound Section	NBS
Mr. Wildhack	Sound Section	NBS
Mr. Stern	Sound Section	NBS
	APD	

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3. Purpose of Meeting:

a. Discuss the mechanical demodulator

b. Discuss the progress of the ultra sonic measurement program at NBS

4. Discussion:

a. Mechanical Demodulator: The mechanical demodulator device was discussed with Mr. Koidan. He stated that the Sound Section had obtained a copy of R. K. Potter's patent on this device and was quite intrigued by it. Various members of the section put forth their comments on this device with the conclusion that it was feasible and should, if we so desired, be tried. The only difficult part is, of course, the audio demodulator. NBS ran some crude preliminary tests using a 30 KC signal, a hollow core of barium titanite, and a table top to make the core non linear. A 400 cycle hum could be heard by the human ear from this setup.

NBS will now make some small crude demodulators, using their available plastic films. NBS was informed that if they so desired, a work order could be arranged through [] for the development of this device. They felt that at present they would prefer to charge the expense to the allotment they are using on the microphone evaluations and if further experiments prove fruitful, a new work order could be set up. The undersigned feels that this patent is a challenge to the Sound Section and that their interest in it is to our benefit.

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NBS has a few microphones left to evaluate, namely the ones supplied by ASD. NBS needs certain specifications on these microphones before further work can be done on them. The information needed is the type of microphone, the impedance, and the voltage of these microphones, since they are encased in sealed brass cases or in hearing aid cases. Someone from ASD will be asked to accompany the undersigned on the next visit to NBS.

b. Progress of the ultra sonic measurement program at NBS: Mr. Wildhack reported on the progress NBS has made to date. Work is continuing on ultra sonic measurements of walls. Wall correlation studies are still in progress and results so far show that posts, pillars, etc, can be picked out in walls. However, determining the thickness of walls is another matter and so far results have been unsatisfactory.

Preliminary microwave tests have been run and the results are not encouraging. Tests have been made on cement blocks with either no signal pickup or the correlation for the block has been very poor. Work is continuing on this approach.

The results of NBS's work on ultra sonic measurement and microwave measurement can be summed up by saying that at present, neither of the two approaches appear to be satisfactory or encouraging.

c. The undersigned has been invited to the "Open House" being held by the Office of Basic Instrumentation and OMR at the Bureau of Standards on 26 January 1956. If satisfactory arrangements can be made, the undersigned would like to attend the function.

5. Actions:

APD - Supply NBS with information on the microphones supplied to them by ASD.

TSS/APD

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- 1 - NBS Mike File
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