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8 August 1956

*P-101C*

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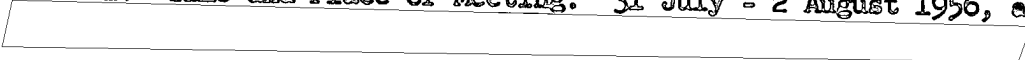
MEMORANDUM FOR: THE RECORD

SUBJECT: Monitoring of Contracts



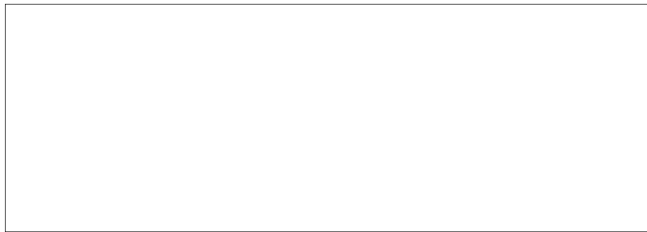
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1. Time and Place of Meeting: 31 July - 2 August 1956, at



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2. Attendance:



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3. Discussion:

a. The Model E infrared transmitter was returned with two suggestions for improving it: (1) Eliminate the 60~(120~) hum; and, (2) Reduce the noise picked up from walking, etc.

b. The hum was proved to be originating from the filament and a number of methods were considered to accomplish the DC power. By straightforward rectifying and filtering, one can obtain the DC; however, the voltage drop through the rectifiers when starting with only 1.5 volts would be about .5 volts, which can not be tolerated. Another tap on the secondary might be used but none exists. Rewinding the transformer was considered but time consuming and expensive. By using a doubler circuit, then rectifying and filtering, the proper voltage can be obtained. This indicates doubling the current flow in the secondary. A quick look at the transformer specifications indicated that no damage would result from doubling or indeed trebling the current. A combination then of a doubler with 2 filter condensers and a choke was tried. Hum was not audible. Selecting the proper components for life and configuration, and obtaining them in addition to actually placing them in the power supply remains to be accomplished. This will necessitate the power supply being larger (1-2 inches deeper).

c. The annoying noise transmitted was checked on. When the unit was used without the optical head, the noise level dropped to an acceptable level. This indicates a modified response curve is required or that the optical head (i.e., galvanometer) is acting

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as a moving coil microphone. The latter is not probable as the galvanometer is fluid damped and otherwise designed to operate under vibrating motions. The modified response curve will present no particular problems. The modifying and the overall result will be investigated further.

d. Model C - The model C miniature infrared communicator was not returned; however, 10 changes were discussed as follows:

- (1) The units should incorporate the more sensitive galvanometer which will provide 100% modulation rather than the present 90%. This is planned and will be accomplished.
- (2) The percentage modulation indicator will be incorporated with detents on the sliding window cover.
- (3) The Captive screws for securing the chassis to the cover will use flat "C" rings. The cover will be steel reinforced at these points.
- (4) The battery contact problem is unresolved. The center tap wire will be changed - perhaps a firing pin type contact will be the answer.
- (5) The sighting system was discussed. Flip up type sights would necessitate two (front and rear) that would not be flush with the case. Ruggedness would be adversely affected and repeating the position would be difficult. No sight of a comparable size and ruggedness has been devised. The sight is mounted to the case and not the optical chassis and would therefore require frequent collimation to attain a better accuracy than that of the current type even if a different type were used. In practice, no great difficulty has been experienced in finding the other tone at ranges out to .55 miles; therefore, it was not recommended that the sights be changed.
- (6) It was suggested that a Kodapod of a cast type (similar to the German one) but with larger jaws be obtained. The weak construction of the Eastman Kodak offering makes its use undesirable.
- (7) An internal light leak (optical feedback) which was apparent in the two prototype "C" models, and was hastily cured by black rubber shields, will be corrected in a more professional manner.
- (8) The glass fabric and plastic insulation sheet will be modified to cover the lamp base (which is more prone to shorting than any component currently insulated).
- (9) The microphone cable

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-2-

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(9) The microphone cable connectors will be changed to a locking type. (Smaller and more rugged if possible.)

(10) The lens cap will be of the double type, molded of Teflon and attached to the front surface (to prevent its loss).

e. The other contracts were reviewed. No progress has been made since the move; however, no time extensions are contemplated at present. [redacted] requested that he be permitted to visit [redacted] in Washington, to which no final answer was given.

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TSS/APD

Distribution:

- P-101C ✓
- P-101D
- RTW
- Chrono

TSS/APD/RTW/bf (8 Aug 56)

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