Approved for Release: 2024/06/08 C05025829

NSA Report To TOG

ofler NynoI

11 may 1961

ENTERALIZE WILL ACD. L. E. Proof

CONTRACTO

CRAD Presecting

The following energy are calculated to the questions contained in year case of 5 May, cabject as there.

QUESTION: 2.a. What estima is being taken to proper standardized topos for calibration? III. Itals that this is a necessity in attacking the problem for ultimate making colution.

ARRICAN Original calibration tapos were propored by ERL but were not adequate. Her tapes nor being prepared.

QUESTIDE: 2.b. Is it possible to standardize a format of the data to be hardled?

Allfalls: Yee, it is possible to stendardise the data format at againsted step through may of the verices processes. There is no logical reason why the FEF or FEI, time, and length of individual illuminations about the approach in three coparate kinds of terms; for practical reasons, becover, the least officient terms to use for computer proceeding are not the same as the accepted terms used in meanly presenting.

QUESTION: 2.0. What can be done to acquire more "Corbor" equipment? The single equipment at INL is calibrated and is russing. Air Porce Sorguest Winterbottom, from CCSA-5, is doing an excellent job. Will be russin with INL until no further requirement with the Gorbor equipment except. It is understood that the company that build the equipment is cart of business. What is the systery on reproducing each an equipment when no already have one model, using another contractor? INL feels it is desirable to put two chifts on the Corbor equipment at once.

Additional Curbor equipment can be perchased and additional people can be provided for operation if this is required. This gets into the provided for operation if this is required. This gets into the processing of the tapes from the first CRAN whet? Our efforts have been alread beavily at developing techniques and mathematic to process all signals from all topon and locate as many as possible. The SIC request and the present CII questions would suggest that we adopt

Mr. Lovenson

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consider adding additional resources to the effort to obtain partial and piece small results in advance of more complete solution. If this decision is made, them it may be advisable to expand the "Gorber approach." We will discuss this with CMI.

QUESTICH: 2.d. What is the status of the Bausch and Lord optical reader? Has it been calibration checked? Is it manned?

ARS.IR: The Benech and Lord reader is manual right now. Calibration | check will be completed by 20 May.

QUESTICH: 2.9. What is the status of currently available Audico equipment with reference to calibrations if meeded and any assistance of electronic engineers who work with hat missions have been run, if any, to check the operation?

ANSWER: The present Audico equipment, utilizing the timing tone on the taps to control the taps speed, has been found wenting in occarsepects due to the capstan inertia of the taps drive. MPRO therefore, is modifying the existing equipment so that the timing tone on the taps can directly determine the Audico sampling rate. This modification is expected to be completed by 16 May. Missions will them be run through Audico and Bogart which will simultaneously check the audico and provide a digital output which will be available for study.

QUESTION: 2.f. What data do we have from SAC on height-finders? Has any work been done on location of height-finders?

ANS.ER: We have received from SAC "data" on height-finders which consists of a formula which was worked out empirically by Capt.

of SAC for an airborne platform. This formula assumes a sinusoidal motion of the nodding antenna, and, since the time motion is not sinusoidal, the formula is unusable for this project. Data from which the true metion can probably be determined was requested, informally, at the meeting with SAC and WRL on 2 May and SAC stated they would send to us immediately.

QUESTION: 2.g. Is it possible to proceed with the program of fixing of V-Beam radars?

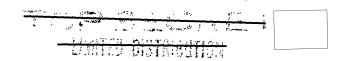
ANSWER: The program for fixing V-Beam radars has been completed.

**e have been held up in using it by the inadequacy of signals from known locations which would permit accurate locationing of the remaining signals. Action is underway to overcome this difficulty.

QUESTION: Do we have any program work in process for computer sort programs?



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ARCHART 108, LEG COMPULAR BOPT PROGRAMS ICP 18CLATING ALL FACARS
with mearly the same PRF is written and operational. The scan-sort
programm for collecting all of the illuminations from each individual
mitter are written and debugged. The only present problems with these
programs are: (a) timing inaccuracies introduced by the present Audico
servo-control, and (b) the lack of knowledge concerning the true stability
of the various measurable parameters, such as PRF, scan rate, etc.
Once the Audice medification is complete and the information on stability
has been obtained (Mr. of CMI has agreed to furnish this), the scan-
sort program can be made operational. It will take some time, however,
to experiment with the various thresholds in order to find the best settings,
before obtaining true operational status. In any case, the computer programs
will always need to be complemented by some hand analysis.
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QUESTION: 2.1. How many MSA parsonnel are cleared into this project?
I waterstand that Dr. is in charge of the ever-all program for the
project/ who is working with the MRL people directly or indirectly? What
additional data can they provide, if any, in resolving the over-all problem
of Laboratory of the broade in the interest of the canada browners
CL POUL DESIGN
ANSWER: 52 people are cleared into this project.
Dr. is in charge of the overall program.
A number of people from COSA, MFRO and PROD-O3 have been
working with HEL, with Mr. DeCourt, Lt. Cdr. Mr. Strave and Mr.
Jetchell being most actively involved.
Sows of the data required from NRL has been mentioned in
the above answers. Additional data will be requested as required.

RETERMY F. CONLEY



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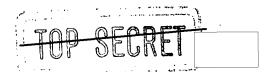
Processing

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- 1. Need to Immediately Reduce All Material to Hard Copy
 - A. Standardized tapes for Calibration Must Be Run Immediately
 - B. Standardized Format should be obtained as soon as possible
 - C. Gerber

Equipment

- Is Running has been calibrated Must keep; it operating 100%
- 2. Must keep AF Sergeant Winterbottom on the job
- 3. Desirable to put two shifts on the Gerber at once
- 4. It would be desirable to procure additional Gerbers
- D. Bausch and Lomb Optical Reader
 - 1. It has not been calibration checked
 - 2. As soon as possible this equipment should be manned full time
- E. Audico
- 1. As yet uncalibrated
- 2. Need for calibration and assistance of electronics engineer to work with Struve
- 3. Need to run full length Missions like 905 or to check the overall operation.



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2. Programing

- A. Height finder Programing.
 - 1. A program for location of height finders should be started at once
 - 2. Data on height finders from SAC should be obtained to assist NSA
- B. V Beam Programing
 - 1. A program for V Beam fixing should be developed as soon as possible.
 - 2. Location of V Beams should be done on an immediate basis
- C. Computer Sort Programs
 - 1. NSA should assign an additional programer to work with NRL to get NSA in a position to take over the type of processing now being done by NRL computers.



