

DEPARTMENT OF THE AIR FORCE
WASHINGTON

OFFICE OF THE UNDER SECRETARY

17.5
15 May 1964

MEMORANDUM FOR THE DEPUTY FOR SATELLITE OPERATIONS,
~~(S)~~ NRO STAFF

SUBJECT: Action Items and Status of Systems 3rd TD EARPOP Meeting,
Held at Lockheed Missiles and Space Company, 5-7 May 1964

1. LONG JOHN IV.

a. Status--The payload is presently at Lockheed, it will be delivered to Vandenberg at the end of May.

b. A frequency response curve of this payload is attached to this report.

c. Since SAC does not have a discriminator, there will be two different output formats. NSA will receive the raw data from the Custom Shop; SAC will receive discriminated data prepared by the Custom Shop. SAC agreed that four-second time ticks would be sufficient for their analysis.

d. The Leech tape recorder presently has 13 minutes of recording capability. Presently, no split readouts are planned. This solves the problem of having data with ambiguous collection times.

2. NOAH'S ARC.

a. Status--The P-11 will be shipped to Vandenberg 15 May 1964. The payload is not ready, therefore, the compatibility check will be made at Vandenberg. The first box of the payload will be completed about 22 May 64.

b. Action Item--Lockheed will prepare the orbital elements ASAP so WAIHO can select appropriate programming time delays.

c. Action Item--Lockheed will check possibility of changing sensitivity from 45 DBM to 55 DBM for the 169-177 mc range. This is to insure increased intercept of the vertical lobes of the TALL KING radars.

3. L-Band PLYMOUTH ROCK.

a. Status--Not much change since last month, work is being done on components.

b. A single command will turn system on four times every 12 hours for 15 minutes; it need not be turned on simultaneously with Step 13.

4. Modified VINO.

a. Status--Possible changes of the M hold were discussed.

b. [] made a fade time study to determine if the signal is lost for any reason how long the receiver should be held at the same frequency before scanning is resumed. Since the fade exceeds three seconds, the receiver may become hung-up. [] suggested the use of real time commands instead of increasing the delay of the M hold.

c. Action Item: Lockheed will add a real time command which will allow selection of a longer, yet undetermined, additional M hold time.

5. Step 13/Slide 60.

a. The system can read in one pass every 12 hours. (12 minutes of data per day.)

b. Low frequency is measured by commutator, upper frequency must be measured by counting the level of steps.

c. Action Item--Lockheed is to add a circuit that will put a pulse every eighth step of the 256 steps for the 168 to 230 mc band in order to aid processors in achieving better frequency readout.

6. PUNDIT III.

a. Status--7303 payload was delivered, the vehicle is ready with exception of the recorder phase compensation.

7. Mode A problems for 7301 and 7302 were reviewed and PUNDIT III should resolve all difficulties with the present transpond mode of operation.

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8. PUNDIT IV

- a. Payload will be initially the same as PUNDIT III.
- b. Dual-burn engine to be developed by Lockheed for P-11 should be capable of a 500 mile circular orbit. The system will contain increased solar panels; development should start in 2 or 3 weeks.
- c. Action Item--Lockheed is to check the feasibility of using a 100 KC tape recorder (data link has 200 KC band width capability).
- d. Action Item--NSA is to perform a study to determine optimum frequency setting for the fixed tuned receivers.

9. PUNDIT IV & V.

- a. Action Item--Lockheed will consider making Mode A and Mode B separate boxes, so they can be installed independently with other payloads having the same operational mode.

10. Square Twenty.

a. Present System
PL, T/R, 2 x MT/Rs

Addition of 1 T/R and 1 x M/R

WT	52LB6	12LB6
R/I PWR	25 Watts	8 Watts
R/O PWR	60 Watts	32 Watts

- b. Action Item--Lockheed will experiment with a simulated target signal at different input levels with the 25 KC recorder to determine capability to provide meaningful information.

11. New Hampshire.

- a. Status--Made change to sync pulse (RF counter).
- b. Action Item--Lockheed and NSA to determine means of providing accurate in-flight calibration of the payload.

12. C-Band Launch: Definition of payload awaiting P-11 capabilities study by Lockheed.

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1 Arch
 Freq Response Curve





