

SECRET  
WORKING PAPER:

7105 Oct 7

I. WHAT HAS NRL PROVIDED FOR THE "FIELD DIGITIZER SYSTEM"????

- a. New Special purpose solid-state RECEIVERS.
- b. [redacted] points of the leading and trailing edge of each pulse, thus avoiding the [redacted] associated timing errors.
- c. A sophisticated Analog-to-Digital data conversion with small computer to provide precise description of the data before it has suffered any recording media. This <sup>time</sup> description of data is packed homogeneously in the most compressed ~~form~~ digital form on magnetic tape using IBM-729 standard format, @ 800 ppi.

II. WHAT HAVE THE RESULTS INDICATED????

- a. Data timing accuracy improved so that standard deviations of less than 1 or 2 microseconds is not uncommon.
- b. Data is not now sensitive to variations in signal amplitude which are severe with a constant level slicer type A-to-D converter used in AUDICO in the past.
- c. The new generation of Digital Data has resulted in higher efficiency potential for data processing since man-made Local interference is not digitized and cuts down on the amount of background noise which is seen in the analog data of the past. Thus more of the data is associated into [redacted] than was possible with the older format.
- d. Data emanating from <sup>up to 10</sup> areas (as small as [redacted] radius) can be sorted out immediately following the pass.
- e. Signals Of Interest (SOI) designated by NSA can be sorted out and/ High Priority signals used to alert other platforms. ~~xxxxxxx~~ recognition of

III What is NRL doing to extend this Capability ????

- a. a second generation Analog to Digital Data System (A/DDS) is being developed and expected completion is set for March with <sup>units</sup> units by 1 June 1968 if GO-AHEAD is received by 1 November.
- b-Improved Buffered Digital Tape Transport system is under Proposal evaluation at this time. Delivery is 90 days + 60 days for each additional unit .....
- c. Gen. Purpose Computer <sup>usage</sup> is being streamlined and software up-dated to expedite data handling and improve sort versatility. Delivery is 120 to 150 Days After Order.

IV. SCHEDULE

- a. personnel limitations impose a severe restraint on schedule at this time so that the following estimate is proposed.....

\$450K - [redacted] will get the ~~St~~ side system as soon as a new one can be procured. This system is much more thoroughly shaken down and documented than the one in [redacted] March 1968 is the best estimate of deployment

450K - [redacted] .. Will get NRL system when it is replaced by new one. May is the best estimate

450K [redacted] will get the NRL system when it is replaced <sup>about July</sup> about July.

150K [redacted] will be updated with a portion of A/DDS system.

\$1,500K needed.

CONTROL SYSTEM ONLY