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K46

29 August 1969

K461

Reaction to NRL Proposed Tasking of 7106.

1. Herewith are recommended alterations to the NRL recommended tasking of the first five passes of the 7106 intercept system.

2. The following frequency bands are deleted because of either duplication in adjacent vehicle or a combination of high signal density and lack of supporting signal of interest.

7106 Charlie, Band #6 550-650 MHz, Very high Allied/No SOI.

Band #10 1800-2100 MHz, duplication

7106 Delta, Band #11 2100-2580 Mhz, duplication

Band #9 1205-1800 Mhz, Very high US/Allied, No SOI's.

3. The following Tasking is recommended:

| Vehicle | Band | Frequency | P/W | Signal of Interest | Density |
|---|---|---|---|---|---|
| 7106A | #2 | 165-200 M | | | Mod/Heavy |
| | #10 | 1800-2100M | | | Mod. |
| | #4 | 350-450 M | | | Light |
| 7106B | #1 | 154-165 M | | | Li/Mod. |
| | #11 | 2100-2580M | | | Mod. |
| 7106C | #9 | 980-1080 M | | | Light. |
| 7106C | * #23 | 14.6-14.9 M | | | Mod. |
| | #7 | 835-970 M | | | Mod. |
| 7106D | #20 | 6700-7300M | | | Mod. |
| | * #16 | 3300-3600M | | | Light |
| | #4 | 350-450 M | | | Light |

* 50B (WE'll BANDS)

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The USIB Priority data collection set down the technical assessment which the community must make. Certain factors which must be disclosed are (1) Emitter Location, (2) PRF characteristics and (3) Antenna Scan characteristics (4) along with parametric measurements of [redacted] (5) [redacted] measurements to the tolerance desired.

In addition to these factors the USIB guidance set forth a doctrine of "Associative Analysis" whereby the analysis community must view simultaneously the total known polulation of all elements of a Weapon System and by completecorrelation with the five parameters listed ablve, sort out all unknown emittors which by one or more of these criticeria, show a potential association or kinship to one or more elements of the Weapon System. POPPY is ideally suited for such wide-spectral search and the associative type analysis. Table # 1 has been provided to show examples of the TASK #1 is the BASIC ABM/AES search task.

TASK # 2 is the ABM Task altered to take advantage of the recognition of the TRY ADD signal.

[redacted]

TASK # 4 is desinged for that special occasion when the community would desire to monitor the entire spectrum from 154 MHz to 9,340 MHz without a gap. The band from 9500 to 10,000 MHz can be added if this is desirable but it is considered to have escessive data density for inclusion here.

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BASIC PREDICTIONS FOR MISSION 7106 Equator Crossing and times relative to a predicted 1300Z Sept Lift Off from the Launch site:

| ORBIT # | EQ-Crossing Longitude | T I M E Day HR-Min-SEC |
|---|---|---|
| 1 | 58.69°East | 26-14-03-17 |
| 2 | 32.59 | 15 46 47 |
| 3 | 6.49 | 17 30 17 |
| 4 | 19.61°West | 19 13 47 |
| 5 | 45.71 | 20 57 18 |
| 6 | 71.81 | 22 40 48 |
| 7 | 97.91 | 27 00 24 18 |
| 8 | 124.00 | 02 07 48 |
| 9 | 150.10 | 03 51 18 |
| 10 | 176.20 | 05 34 48 |
| 11 | 157.70°East | 07 18 19 |

The Launch-Window,(that period of time during which a launch is possible according to the complex requirements for launch) is a period of about two hours and 38 minutes each day which gets about one hour earlier for each four days delay after the 26 Sept date now scheduled. There will undoubtedly be delays so the site must await a message which gives the exact "Lift-Off" time and an OFFSET time which is subtracted from the column abovelabled"TIME". If for some reason this OFFSET time is not supplied, just subtract the precise Lift-Off time from that predicted, (1300Z) Launch time. This Offset time will increase at a rate of about 15 minutes for each day of delay. NSA has accepted the responsibility of getting the ALERT message to each of the POPPY sites....The above predicts will allow for planning purposes at least, the site to have the antennas aimed at the right heading and the receivers tuned to the right frequency and the tape recorders loaded and patched appropriately for a 2½ hour period each day after 26 Sept.

Frequency of the Data and Telemetry transmissions of Mission 7106 are as follows: 7106A 7106B 7106C 7106D 7105A 7105B

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SIGNAL TO RECORDER TRACK ASSIGNMENT # 2 (FOR SITE WITH 4 DATA RECEIVERS).

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| RECORDER Track --Electronics | SPACECRAFT # data-channel | | Signal recorded |
|---|---|---|---|
| (PRIMARY & SECONDARY) | | | |
| #1-------FM 54 kc $F_c$ | 7106 A | Channel B | Standard POPPY Data |
| 3 " " | 7106 B | Channel C | Standard POPPY Data |
| 5 " " | 7106 C | Channel B | Standard POPPY Data |
| 7 " " | 7106 D | Channel C | Standard POPPY Data |
| 6 Analog | ---------- | | Mixture of 50 Kc and Time Code. |
| PRIMARY | | | |
| 2 Analog | 7106A | Channel A | Housekeeping Telemetry |
| 4 " | 7106B | Channel A | " " |
| SECONDARY | | | |
| 2 Analog | 7106C | Channel A | Housekeeping Telemetry |
| 4 " | 7106D | Channel A | " " |

NOTE: The Format here offers the sites with only four data-receivers to receive and record two pairs of spacecraft simultaneously during the first five orbits with minimum loss of critical data. The Information which is not recorded is from the parametric measurement options thus there is a minimum sacrifice in the data from the analog-sites. The major difference in the record-Format is that on one of the two tapes(which are made simultaneously) the housekeeping telemetry data from 7106A and 7106B is recorded on track #2 and #4 respectively and on the other tape the telemetry data from 7106C and 7106D are recordedon track #2 and #4 respectively. The data on Tracks 1,3,5, and 7 is exactly the same on each of the takes. This just provides the redundency in the tape recording systems. The site must be sure that the record electronics used in Track #6 is the specially modified analog-record amplifier with the accessory for recording the oscillator Reference/tone.....

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