OUTGOING
NRL SPECIAL PROJECTS CONTROL NUMBER

BYE-61784-92

DATE

SEC

ORIGINATOR	SERIAL NO.	ENCLOSURES
8000	BYE-61784-92	00

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SUBJECT
SEJ W/P
TEST PRES & FUTURE IN POPPY

DISTRIBUTION INFO

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Past, Present and Future in POPPY.

As far back as 4¼ years ago the POPPY Program had demonstrated the ability to protray the manifestation of a type signal, This particular Option used a/system in the range where the upper 150 Mhz was further divided into the following sub-bands. When this option was tasked the data was a long pulse (500 microseconds in duration) with a 100 microsecond notch which would move into either of several positions along the top of the longer main pulse to indicate which of the sub-bands the incoming pulse was defined RF Frequency. This system did on numerous occasions demonstrate the ability of the system to intercept such a signal. While the data format was not easy to handle on automatic data processing systems when bandwidth limited receiving systems were used, it did work quite well.

The standard POPPY spectrum segmentation does if adjacent collection bands are tasked at the same time provide an opportunity to observe the This has not been reported to our knowledge, but this reflects the inhibitions of the analysis effort rather than the lack of the payload design to cope with the incoming signal.

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SORS committee to be supplied the following.....

A. Presently planned systems capabilities with particular attention to the limitations on collection against other intelligence needs if these systems were optimized for collection against known systems.

B. What is the size of the smallest increment of that is discernible?

C. What is the definition of the sector

D. What is the main beam shape and the relative

E. What is the Main Beam if more than one beam is used.

F. What is the type and accurate description of the Modulation and changes in the basic modulation format?

G. Type and quality (TIme-Bandwidth product to within 25%) and the extent of use of intrapulse modulation?

H. Complete dynamic operatiion of the radar to determine:

(1) If several beams are transmitted simultaneously, How used?

(2) When and how the targets are tracked?

(3) If Track and Search can be done simultaneously?

(4) Variations if any in Scans?

(5) When is intra pulse modulation used?

(6) Variati ns if any in Modulation of both the pulse train and within the pulse itself?

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a: Primary [redacted] capabilities with particular attention to limitations on collection against other intelligence needs. If these syst. were optimized for coll against known [redacted] sigs.

(b) Size of smallest [redacted]
(c) - Sector definition
(d) Beam [redacted]
[redacted]
(e) Main Beam [redacted]
[redacted] if more than one beam,
(f) Type & accurate description of mod & changes in basic mod format.
(g) Type quality (Time-Bandwidth product to within 25%) Textual use of intrapulse mod
(h) Complete dynamic operation of radar to determine;
(1) [redacted] beams ... how used
(2) ... how target ...

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(3) [redacted] ests & search can be done

(4) Variations if any in scans

(5) If in interpulse mod is.

(6) Variations if any in mod of both the pulse trains & within the pulse itself.

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The basic [redacted] does not effect POPPY unless [redacted] Bandwidth.

SECRET [redacted]

[redacted]

Why [redacted] first, why not look for gross [redacted] in POPPY data by observation of crossover points in POPPY first.

Future:

Under development at NRL for over the past year and proposed [redacted] in the concept for Mission 707 is a comb filter bank with a crystal detector and video amplifier for each segment of the filterbank. The bandpass is about 2 mc per segment in the range 1000 to 2000 mc and about 25 to 30 mc in the 2000 to 4000 mc band. The filter is a Yittrium Iron Garnet (YIG) which is mechanically tuned prior to launch. The burden of this system is its great magnitude of hardware but it does have a compensating blessing in that certain segments can easily be "turned-off" to eliminate cluttering (unwanted) data by RF discrimination

SECRET [redacted]

[redacted]
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