

~~Top Secret~~ ^{Suggested} FORMAT

Division
Branch
Investigator

Date

Title

1. A short paragraph on background leading up to the actual accomplishment.
2. Second and succeeding paragraphs should describe, in semi-technical language, the research accomplishment.

- Note: 1. The accomplishments are due quarterly. feels that since we are a large division every branch should have at least one or two accomplishments per quarter.
2. Security classification is not a hindrance.

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COMINT Channels
Jointly

~~Top Secret~~

Second Quarter Research Accomplishments by Code 7920

30 June 71.

Principal Investigator [redacted] Hellrich/GEorge Price/R.D. Mayo

Subject: Augmentation of Program "C" for Ocean Surveillance

1. Background:

Program "C" has for the past ten years been associated with the overhead collection and processing of ELINT against current USIB priority targets. In essence this has been one of the major National resources for the General Search category for the early discovery of heretofore unknown radar signals. Historically, the Program "C" data has been exploited toward the solution of the strategic ELINT mission. ^{however,} Over the past two years significant demonstration has also been made of the potential available within the program to intercept, identify and locate on an increasingly timely basis, the major combatants of the Soviet Navy. It is in this direction that ~~the~~ Program "C" is being augmented. Thus the time critical or mobile ship target is soon to become one of the major goals in the operational exploitation of the intelligence being derived from this program.

2. The augmentation of Program C for Ocean Surveillance has taken the form of two distinct efforts; (1) the first is the design, development and ~~soon the~~ fabrication of a hardware system which will allow the extraction of the time-critical portion of the data and in addition it will be reformatted into the appropriate language of the local processor. (2) the second area of effort is the selection, procurement and deployment of the second-generation computer along with a library of [redacted] software programs.

~~Top Secret~~ [redacted]

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Channels Quietly

Second Quarter, Research Accomplishments By code 7920

30 June 71

Principal Investigators...V.S. Rose/[]/E.G. Becke

Subject: Contiguous (Comb) Filter development for X-Band.

1. Background:

Since Mission 7104 the Program C ELINT Coverage has embraced the frequency spectrum up through 9500 MHz and has experienced increasingly heavier data density each year, particularly in the area of the Iron-Curtain border between Europe and Asia. Signal density in excess of 100 main beams in a single second have been observed. The solution to this problem has taken several forms in the ELINT subsystems now being developed by the principal investigators; one of these is being discussed in this paper and that is the development of a contiguous twenty-section filter where each tooth is approximately 20 MHz wide and immediately adjoining its neighbor above and below it in frequency. Together these 20 teeth cover the frequency range from 9200 to 9600 MHz.

2. By reducing the overall RF bandwidth of the collection system it is obvious that certain undesirable (Friendly) radar families can be eliminated from the Program data and will no longer need burden the processing systems. Thus it is anticipated that this ability to be more selective in the assignment of X-band collection will result in a great exploitation of this heretofore unused portion of the ELINT collection by overhead means.