

NATIONAL RECONNAISSANCE OFFICE

10 June 2002

~~(U)~~ MEMORANDUM FOR JOHN STOPHER, HPSI
KIRK McCONNELL, HPSCI
BETH LARSON, HPSCI

~~(S//TK)~~ SUBJECT: CARRIE Deorbit

~~(S//TK)~~ The rapid pace with which new and advanced space technology has entered the nation's reconnaissance architectures over past decades is the result of many years of sustained and insightful investment in "cutting-edge" technological research and development. One such project was M7245, also known as Communications Intelligence (COMINT) and Rapid Reporting Interferometer Experiment (CARRIE).

~~(S//TK)~~ Launched 13 March 1994, the small experimental vehicle became operational in June 1994. The satellite demonstrated the utility of a dedicated tactical overhead signals intelligence (SIGINT) asset, used minimum support infrastructure, and demonstrated advanced technologies. The Defense Advanced Research Projects Agency funded the project, which the National Reconnaissance Office (NRO) executed. The planned mission duration of the satellite was one year and the design life was three years.

~~(S//TK)~~ Because of the extremely valuable COMINT external mapping information provided by the satellite, tasking continued for as long as orbital analysts could accurately predict its orbital parameters, maintain attitude control, and the satellite continued to provide meaningful and useful data. This continued use of the spacecraft did not interfere with the natural deterioration of CARRIE's orbit. The satellite did not have a boost or maneuver capability; therefore, no actions could be taken to change its predicted de-orbit location or time.

~~(S//TK)~~ On 3 April 2002 the NRO provided 30-day notification of the uncontrolled re-entry of M7245. The attached paper is provided to give you some background and accomplishments of this small experimental satellite, which re-entered the earth's atmosphere on 7 May 2002.

CL BY:
CL REASON: 1.5(c)
DECL ON: X1
DRV FROM: NCG 5.1
1 May 2000

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(U) Should you require additional information, please
contact my SIGINT Legislative Liaison Officer,

Attachment:

~~(S//DYE/TK)~~ Point Paper

~~SECRET//BYE//TK//X1~~

POINT PAPER ON M7245

PURPOSE

~~(S//TK)~~ Provide final status of M7245, also known as Communications Intelligence (COMINT) and Rapid Reporting Interferometer Experiment (CARRIE), which re-entered the earth's atmosphere at 07/0205Z May 2002 in an area centered at 48 degrees South latitude, 164.59 degrees West longitude in the South Pacific Ocean.

~~(S//TK)~~ BACKGROUND:

- Launched 13 March 1994; declared operational June 1994:
 - Payload built by Airborne Instrumentation Laboratory; Bus built by Ball Aerospace;
 - Approximately 28.5" high x 28" wide x 28" deep => about the size of a clothes dryer;
 - Mission antennas are 40" in diameter;
 - Weight is approximately 439.7 pounds.
- One year experiment (three year design life goal) to demonstrate advanced technology:
 - Address LEO COMINT
 - Show tactical utility of a dedicated overhead SIGINT asset;
 - Rapid re-tasking from field users via Quick Reaction Change (QRC) Request messages;
 - Command capability from field users.
- Minimum development cost (approximately \$34 million) and support infrastructure (approximately \$11 million).

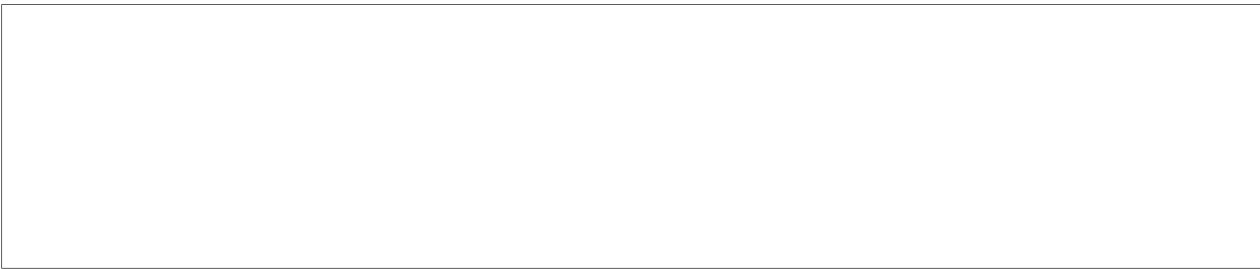
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- The regions of the world, radio frequency coverage, and frequency of revisit uniquely supported by M7245 collection 



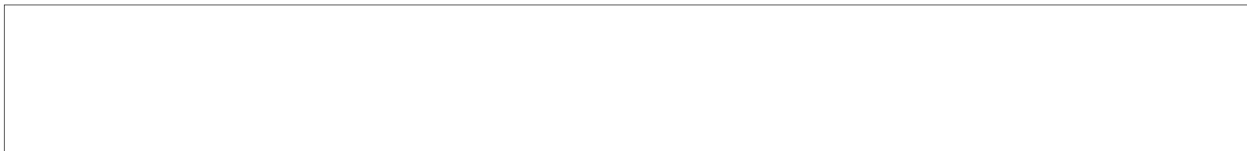
-- The M7245 capability 



~~(S//DYE)~~ HIGHLIGHTS:

- Improved reporting of two modulation types and added ability to recognize another modulation type as well as unmodulated Continuous Wave (CW) signals.

- Provided up to 60 percent of overhead collection in 100-850 MHz range for Southern Command (SOUTHCOM):



- Sole low earth orbit collector in the Indian Subcontinent, Afghanistan, and the Horn of Africa during the early days of OPERATION ENDURING FREEDOM.

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