AD NUMBER

AD493340

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AUTHORITY

usamc ltr, 23 aug 1971

SBRC

SANTA BARBARA RESEARCH CENTER

A Subsidiary of HUGHES Aircraft Company

75 COROMAR DRIVE, GOLETA, CALIFORNIA

(6) BLIP RADIOMETER
(PROJECT GLINT).

(9) Monthly Progress Report No. 15,

For the Period

1 through 31 Oct 1966,

(15) DA-01-021-AMC-12657(Z),
ARPA Order-559

for

Headquarters
United States Army Missile Command
Redstone Arsenal, Alabama 35809

Attention: ANSMI-RNM/H. A. Burnam

(10) John C. Reed

(11) 5 Nov 1966

(12) 5p.

Prepared by _____ Approved by _____
J. C. Reed
Project Manager

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Systems Engineering

Sponsored by: Advanced Research Project Agency
Project DEFENDER
ARPA Order No. 559

(215 650)

BLIP RADIOMETER
(PROJECT GLINT)

OBJECTIVE

The objective of this project is to design, fabricate, and test an infrared radiometer assembly in which the sensitivity is primarily limited by background irradiance. The equipment will use an indium antimonide detector having a state-of-the-art D* sensitivity value in the optical band 4.5 to 4.8 microns. The radiometer will be designed to be optimized for use with this specified detector. The project includes a closed-cycle cooler to achieve the required detector cooling.

INTRODUCTION

The equipment design is based upon the SBRC proposal, SM7/64, dated 17 April 1964, and the subsequent SBRC amendment, dated 17 July 1964. In addition, the scope of work is defined in the Technical Requirement No. 703, dated 24 November 1964, issued by ARPA Division Directorate of Research and Development, U.S. Army Missile Command, Redstone Arsenal, Alabama.

ACCOMPLISHMENTS DURING REPORT PERIOD

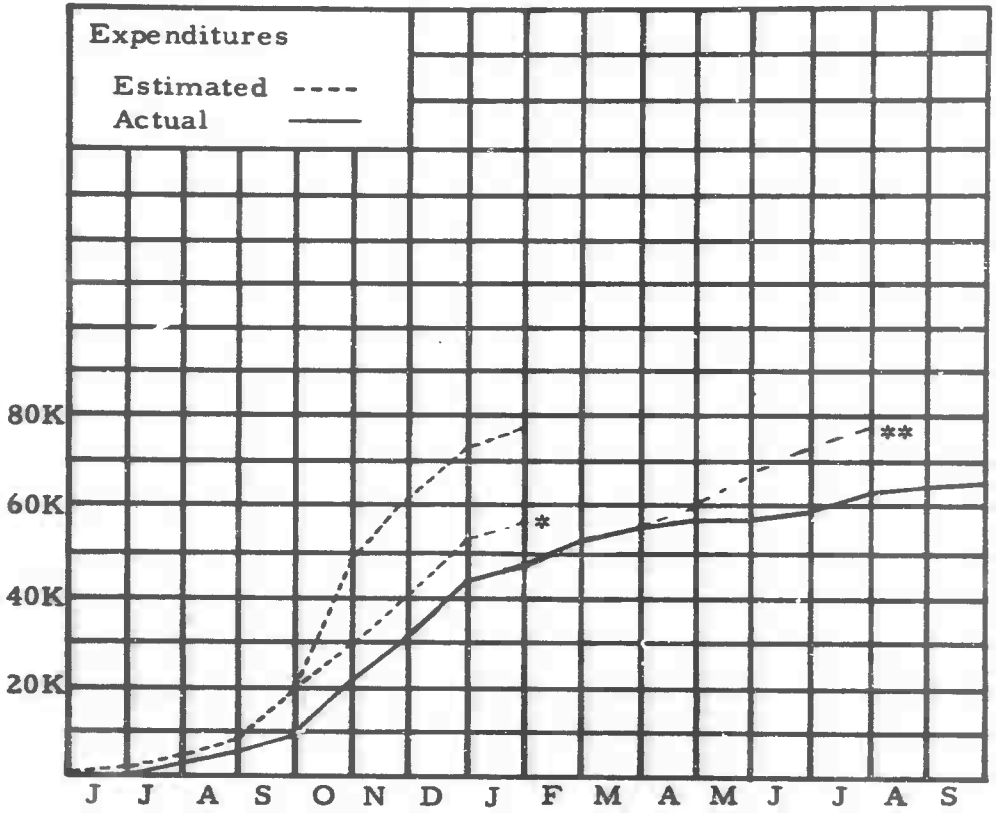
The SBRC field representative hand carried the BLIP Radiometer to the White Sands Proving Ground. It was delivered to the SOLE site on 19 October. On 20 October, the equipment was set up in the field and operated to confirm that no damage occurred to it during the trip. Preliminary sky background measurements were made on 24 October. The measured effective sky temperature was 268° at zenith and 293° near the horizon. This corresponds to a 5×10^4 signal level change in the radiometer output when slewing between zenith and horizon. The measured sky radiance values were compared with

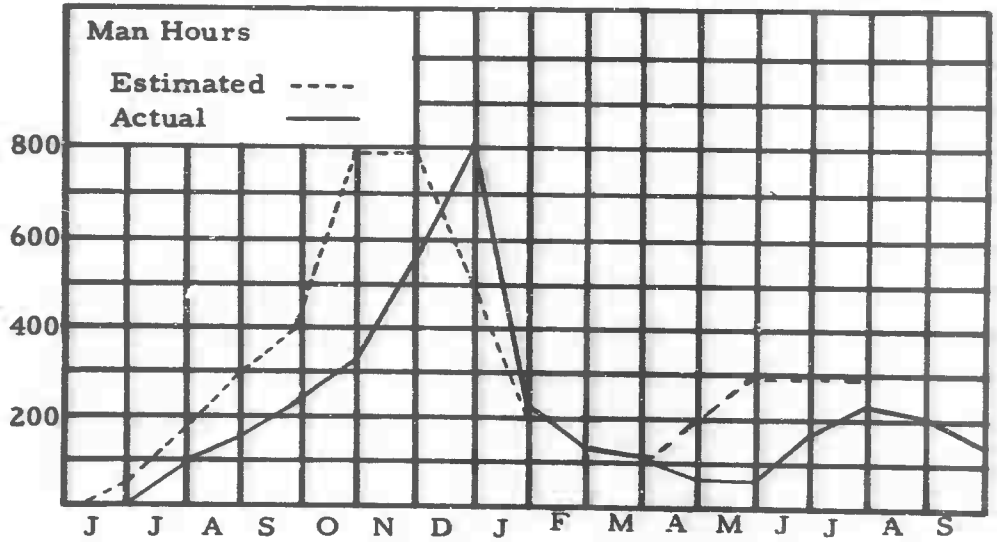
measurements made in 1957 by Ohio State University. These measurements were made at Sacramento Peak located in the White Sands Proving Ground area. Normalizing the SBRC data to 4.7 microns showed an agreement with the Ohio State data to within 20%. No further radiometer measurements will be made until it is mounted on the GLOW mount which is scheduled to be accomplished during November.

The BLIP Radiometer Maintenance Manual was completed in mid-October and the SBRC field service engineer has a copy for use at the GLOW site. A draft of the operating manual has been completed. The Final Report is in preparation.

EXPENDITURE

Total expenditure as of 28 October is $69,758.00.





BLIP RADIOMETER - PROJECT 2200

Task	Expenditure	Budget
Project Management	$10,492	$ 9,627
Conceptional Design	5,020	4,127
Optics	2,994	2,965
Electronics	16,036	18,662
Mechanics	11,275	9,886
Detector Fabrication	12,978	5,252
Quality Control	525	1,002
Test	7,309	5,246
Field Services	3,116	
Summary	$69,758	$56,767
Authorized Overrun		8,006
Change of Scope		13,091
		77,864
Closed-Cycle Cooler		16,800
		94,664

Period Ending 10/28/66

** Estimate as of 1 April - Includes overrun and change of scope.

PROJECT GLINT BLIP RADIOMETER

	MILESTONES	1966 J	F	M	A	M	J	J	A	S	O	N	D
9	Preliminary Operation							△▲					
10	Calibration and Acceptance Tests							△	△		△	▲	
11	Final Delivery							△	△		△	▲	
12	Operation Instructions								△	△	△	△	
13	Installation - Maintenance - Calibration Instructions								△	△	△	△	
14	Final Report								△	△	△	△	△
15	Engineering Drawings								△	△	△	△	