NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

FISCAL YEAR 1964 ESTIMATES

ELECTRONICS RESEARCH CENTER

MISSION:

In fiscal year 1963, NASA is taking initial steps towards the establishment of the Electronics Research Center in the greater Boston area. In the fiscal year 1964 Construction of Facilities estimates, NASA is requesting authority and funds to acquire land and to design the Center. This new Center is planned to strengthen advanced research and technology in the important field of space electronics, in order to provide a capability to anticipate and understand problems in this crucial field prior to the initiation of development projects. The new Center will act as the focal point of the agency's electronics and related physics research and will establish an in-house competency based on intimate theoretical knowledge and related practical experience. The Center's activities will be directed toward:

(1) Expanding the frontiers of electronics and related physics research with the prime motive of deriving concepts, techniques, components and systems for utilization in space exploration, missions, and applications.

(2) Providing objective, mature and knowledgeable advice and direction to the other NASA Centers on the fundamental electronics and related physics aspects of their respective missions and projects.

(3) Establishing a team of experienced scientists and engineers, informed on the nature of the technical problems to be encountered in space, to pursue potential solutions to be extracted from electronics and related physics research. This group will furnish invaluable assistance in maximizing the yield of the efforts of the nation's vast and capable electronics research and development industry.

The Center staff will include experts in the fields of electronics, physics, space guidance, control and information theory, computation and data processing, space electric power, and space flight mechanics. The scientist and engineers assigned to planned laboratories will conduct and direct research in the fundamental disciplines of electrostatics, microwave radiation, inertial sensing, optics, solid state physics and energy conversion. Technique and component advances will be refined to demonstrate instrumentation applications and system utility or feasibility for communi-

cations, data processing, control and guidance systems. The basic and original research conducted will also provide the background and substance for close liaison and scientific exchange with the university research community, other government research and development laboratories, and industrial research organizations, particularly those having an interest in or actively pursuing space-oriented electronics and related physics research and development.

Man's ventures into space for longer periods and greater distances, his desire for additional and refined knowledge of the universe about him, and his goal of utilizing space for peaceful applications, all require refinements in sensors, instrumentation, computation and data processing systems if the more stringent performance and long-operational-life goals of the future are to be met. The efforts of the Electronics Research Center are planned to assure that the electronics and related disciplines are fully exploited to assist NASA and the nation in meeting its goals.

LOCATION:

This Center is planned for the greater Boston area.

SUMMARY OF RESOURCES REQUESTED:

	1962	1963	1964
Number of permanent employees (end of year).....	---	50	250
Personnel costs.....	---	$255,000	$2,725,000
Operation of installation....	---	150,000	800,000
Subtotal.....	---	$405,000	$3,525,000
Construction program.....	---	---	5,000,000
Total installation costs.	---	$405,000	$8,525,000

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NATIONAL AERONAUTICS SPACE ADMINISTRATION

RESEARCH, DEVELOPMENT, AND OPERATION

FISCAL YEAR 1964 BUDGET ESTIMATES

SUMMARY OF PERSONNEL AND PERSONNEL COSTS BY INSTALLATION

	Fiscal Year 1962		Fiscal Year 1963		Fiscal Year 1964	
	Permanent Positions	Cost	Permanent Positions	Cost	Permanent Positions	Cost
NASA Headquarters.....	1,360	$10,885,351	1,900	$20,208,000	2,300	$25,417,000
Ames Research Center.....	1,674	13,358,000	2,025	17,194,000	2,309	20,789,000
Flight Research Center.....	524	4,441,400	575	5,364,000	593	5,935,000
Goddard Space Flight Center.....	2,414	17,765,823	3,200	27,478,000	3,700	34,931,000
Langley Research Center.....	3,770	28,737,000	4,025	34,254,000	4,296	37,760,000
Launch Operations Center.....	333	2,998,965	800	5,533,000	1,200	11,088,000
Lewis Research Center.....	3,678	27,583,000	4,658	39,645,000	5,128	48,707,000
Manned Spacecraft Center.....	1,620	11,565,840	3,196	26,454,000	3,980	38,361,000
Marshall Space Flight Center....	6,194	54,051,836	7,062	73,599,000	7,492	81,739,000
North Eastern Office.....	---	---	30	220,000	40	453,000
Pacific Launch Operations Office	6	54,035	15	157,000	22	210,000
Space Nuclear Propulsion Office.	40	203,000	106	946,000	160	1,771,000
Wallops Station.....	407	2,930,750	465	3,569,000	530	4,360,000
Western Operations Office.....	136	936,000	440	2,779,000	500	5,222,000
Electronics Research Center.....	---	---	50	255,000	250	2,725,000
Total.....	22,156	$175,511,000	28,547	$257,655,000	32,500	$319,468,000
Reimbursable.....	(140)	862,691	(106)	1,000,000	(104)	999,000
Total.....	22,156	$176,373,691	28,547	$258,655,000	32,500	$320,467,000

NATIONAL AERONAUTICS SPACE ADMINISTRATION

RESEARCH, DEVELOPMENT, AND OPERATION

FISCAL YEAR 1964 BUDGET ESTIMATES

SUMMARY OF COSTS FOR OPERATION OF INSTALLATIONS

	Fiscal Year 1962	Fiscal Year 1963	Fiscal Year 1964
NASA Headquarters	$14,040,442	$28,000,717	$40,077,000
Ames Research Center	9,113,000	8,400,000	10,500,000
Flight Research Center	2,792,600	2,173,000	4,450,000
Goddard Space Flight Center	20,534,539	27,410,000	32,995,000
Langley Research Center	17,857,000	16,460,000	16,255,000
Launch Operations Center	3,403,973	10,300,000	26,100,000
Lewis Research Center	17,725,000	14,000,000	17,050,000
Manned Spacecraft Center	12,271,160	23,700,000	32,900,000
Marshall Space Flight Center	34,576,858	39,500,000	50,590,000
North Eastern Office	---	133,000	190,000
Pacific Launch Operations Office	61,333	495,000	620,000
Space Nuclear Propulsion Office	72,000	221,000	505,000
Wallops Station	4,086,250	5,231,000	6,100,000
Western Operations Office	439,000	1,077,000	1,700,000
Electronics Research Center	---	150,000	800,000
Total	$136,973,155	$177,250,717	$240,832,000