

Memorandum 6M-3189-6

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Superseded by 2 M-0643

Division 6 - Lincoln Laboratory
Massachusetts Institute of Technology
Lexington 73, Massachusetts

SUBJECT: SUMMARY OF LINCOLN LABORATORY TECHNICAL INFORMATION RELEASES
PERTAINING TO THE SAGE SYSTEM ISSUED BY THE PRODUCTION COOR-
DINATION OFFICE (CUMULATIVE LIST THROUGH 31 MARCH 1956)

To: T.I.R. Distribution List

From: G. W. Robertson

Date: 9 April 1956

Approved: *William H. Ayer*
William H. Ayer

Abstract: The summary is a cataloged listing of Technical Information Releases pertaining to the SAGE System that have been issued to date and indicates present status. The Production Coordination Office is an office established by the Lincoln Director's Office to serve as the contact point at Lincoln in connection with the SAGE System, and to formally release Lincoln documents covering system specifications and requirements.

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The Lincoln Production Coordination Office (PCO) was established by the Director's Office of Lincoln Laboratory to serve as the contact point at Lincoln for outside agencies on production matters relating to the SAGE System and to facilitate coordination of such matters within the Laboratory. Information and data to be issued as official Lincoln Laboratory documents are processed: (1) to coordinate and obtain approval from all interested Lincoln groups and/or divisions, (2) to obtain concurrence from the interested organizations outside Lincoln, and (3) subsequently to be formally issued with a Technical Information Release (T.I.R.). The T.I.R. form also briefly summarizes the background, indicates extent of coordination, action to be taken, and qualifications regarding the use of the data being released. When changes are made to information which has been previously released by a Lincoln T.I.R., the changed information is processed in the same manner as the original release, and a new T.I.R. is released superseding the previous T.I.R.(s).

The Series 1 Technical Information Releases provides an up-to-date listing of active T.I.R.'s pertaining to the SAGE System. T.I.R.'s of other series do not apply to the SAGE System. Items are grouped into categories according to subject matter.

In order to insure widespread dissemination of the status of the SAGE System T.I.R.'s outstanding, a summarized review of all issued Series 1 T.I.R.'s shall be prepared periodically by the PCO. This summary will be distributed to those persons and agencies receiving Technical Information Releases pertaining to the SAGE System.

SIGNED: G. W. Robertson
G. W. Robertson

GWR:am

Summary of Active Technical Information Releases Pertaining to SAGE System

(Cumulative Listing Through 31 March 1956)

	<u>T.I.R. #</u>	<u>Date</u>	<u>Material Released</u>	<u>Remarks</u>
I. Building Reqm'ts	1-1	7/16/54	Prime Power Requirements- D. C. (M-2871)	
	1-7	7/29/54	Comments on W.E. Memo 7/16/54 on Bldg. Require- ments (M-2937)	
	1-11	8/16/54	Prime Power Requirements- D. C. (M-2960)	
	1-23	9/17/54	Prime Power Dist. System D. C. (M-3031)	
	1-29	10/1/54	Prime Power Requirements- D. C. (6M-2960-Adden.#1)	
	1-30	10/1/54	Comments on Burns and Roe Dwgs. of D. C. Building and Power House (6M-3044)	
	1-39	11/12/54	Comments on Burns and Roe Dwgs. of D. C. Building and Power House (6M-3153)	
	1-72	5/23/55	Power Generation and Dist. for SAGE System Direction Centers, Fifth and Subse- quent Sites (6M-3378)	

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	<u>T.I.R. #</u>	<u>Date</u>	<u>Material Released</u>	<u>Remarks</u>
I. Building Reqm'ts (cont.)	1-74	5/23/55	Annunciator System for Monitoring Air Flow in SAGE Direction Centers and Combat Centers (6M-3501)	
	1-80	6/30/55	Study of a Modified Combat Center For Use as a Permanent Rand and Air Training Command Facility (6M-2769, Supplement #1)	
	1-83	7/19/55	Space Requirements for Non-Lincoln Personnel Associated With Operation of the Experimental Subsector (office space) (6M-3575-1, Supp. 1)	
	1-86	8/10/55	Master Reference List of Requirements for D.C. Buildings (6M-3147-3)	This supersedes information previously released on TIR's 1-2, 1-3, 1-4, 1-5, 1-6, 1-12, 1-13, 1-14, 1-15, 1-21, 1-22, 1-24, 1-25, 1-26, 1-27, 1-32, 1-40, 1-54, 1-63, 1-65, and 1-71.
	1-89	7/27/55	Requirements for Separate Rand-Air Training Command Direction Center Facility (6M-3772)	

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	<u>T.I.R. #</u>	<u>Date</u>	<u>Material Released</u>	<u>Remarks</u>
I. Building Reqm'ts (cont.)	1-107	10/10/55	SAGE Growth and Flexibility Recommendations for Bldg. Planning (6M-3907)	
	1-108	10/18/55	Mimic Panel for Maintenance and Programming Area AN/FSQ-7 (6M-3682)	
	1-111	11/15/55	Master Reference List of Requirements for Combined CC-DC Bldgs. (6M-3198-2)	This supersedes informa- tion previously released on TIR's 1-53, 1-60, 1-61.
	1-130	1/20/56	Power Generation and Distri- bution for SAGE System Combat and Direction Centers (6M-3874)	
	1-142	2/24/56	Cooling System for AN/FSQ-7 D.C. and AN/FSQ-8 C.C. (6M-2921-3)	This supersedes informa- tion previously released on TIR 1-94 sec 3 items a and b only.
	1-147	3/21/56	Master Reference List Lincoln Laboratory Requirements for D. C. Bldgs.	This supersedes informa- tion previously released on TIR 1-86 sec. 3 item a only, 1-94 sec. 3 item c only
II. Combat Center and Direction Center Equip.	1-49	12/3/54	Summary Equipment List for SAGE System Combined Combat-Direction Centers (6M-3166)	

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	<u>T.I.R. #</u>	<u>Date</u>	<u>Material Released</u>	<u>Remarks</u>
II. Combat Center and Direction Center Equip. (cont.)	1-50	12/7/54	AN/FSQ-7 Spare Parts Policy (IBM Memo dated 8/19/54, revised 10/6/54)	
	1-57	2/4/55	AN/FSQ-7 Specifications (6M-3291, 6M-3292, 6M-3293, 6M-3297, 6M-3298, 6M-3299, 6M-3300, 6M-3301, 6M-3309)	This supersedes information previously released on TIR's 1-33, 1-34, 1-35, 1-36, 1-37, 1-38, 1-43, 1-44, and 1-55.
	1-59	2/28/55	Evaluation of AN/FSQ-7 and AN/FSQ-7 Components	
	1-66	3/10/55	Supplements to AN/FSQ-7 Specifications (6M-3291, Supp. 1; 6M-3292, Supp.1)	
	1-73	5/6/55	Summary Equipment List for SAGE System Direction Centers (6M-3159-1)	This supersedes information previously released on TIR's 1-20 and 1-45.
	1-75	5/25/55	Ferrite Memory Core Specifications	
	1-78	7/7/55	Supplements to AN/FSQ-7 Specifications (6M-3291, Supp.2; 6M-3293, Supp.1; 6M-3297, Supp.1; 6M-3298, Supp.1; 6M-3299, Supp.1; 6M-3300, Supp.1; 6M-3301, Supp.1; 6M-3309, Supp.1.)	

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	<u>T.I.R. #</u>	<u>Date</u>	<u>Material Released</u>	<u>Remarks</u>
II. Combat Center and Direction Center Equip. (cont.)	1-82	7/15/55	AN/FSQ-7 Display Console Equipment and Label Layout (6M-3632 and Supp. 1, 6M-3633 and Supp. 1, 6M-3635 and Supp. 1, 6M-3636 and Supp. 1.)	This supersedes information previously released on TIR #1-67.
	1-85	7/21/55	AN/FSQ-7 (XD-1) Display Console Equipment and Label Layouts (6M-3583, 6M-3583-1, 6M-3584, 6M-3584-1, 6M-3585, 6M-3585-1, 6M-3586, 6M-3586-1, 6M-3587, 6M-3587-1)	This supersedes information previously released on TIR 1-9.
	1-90	7/27/55	AN/FSQ-8 Display Console Equipment and Label Layouts (6M-3732)	
	1-91	8/16/55	AN/FSQ-7 Display Consoles (6M-3754, 6M-3756, 6M-3757 and Supp. 1, 6M-3758, 6M-3765 and correction 1)	
	1-92	8/16/55	AN/FSQ-7 (XD-1) Display Consoles (6M-3753, 6M-3755, 6M-3758, 6M-3765 and correc. 1)	

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	<u>T.I.R. #</u>	<u>Date</u>	<u>Material Released</u>	<u>Remarks</u>
II. Combat Center and Direction Center Equip. (cont.)	1-93	8/24/55	Supplements to AN/FSQ-7 Specifications (6M-3291, Supp.3; 6M-3292, Supp.2; 6M-3293, Supp.2; 6M-3297, Supp.2; 6M-3298, Supp.2; 6M-3299, Supp.2; 6M-3300, Supp.2; 6M-3301, Supp.2)	
	1-95	8/24/55	AN/FSQ-7 and AN/FSQ-7 (XD-1) Display Consoles (6M-3399-1, 6M-3728, 6M-3818)	
	1-96	8/24/55	AN/FSQ-7 (XD-1) Specifications (6M-3439-2, 6M-3660, 6M-3842)	
	1-98	9/8/55	Corrections to AN/FSQ-7 (XD-1) Display Console and Equipment Layout Totals (6M-3583-2)	
	1-99	9/6/55	Punch Cards (IBM Memo P-193, D-13)	
	1-100	8/20/55	AN/FSQ-7 and AN/FSQ-7 (XD-1) Standby Console Equipment Totals, (6M-3882)	
	1-102	12/28/55	Standby Console Equipment	

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	<u>T.I.R. #</u>	<u>Date</u>	<u>Material Released</u>	<u>Remarks</u>
II. Combat Center and Direction Center Equip. (cont.)	1-106	10/3/55	Specifications for Utilizing the Kelvin and Hughes Rapid Processing Photographic Projector System in SAGE System Command Posts, (6M-3913)	
	1-113	11/23/55	LRI Monitor Consoles for XD-1 (IBM document P-233)	
	1-114	12/12/55	Supplements to AN/FSQ-7 Specifications (6M-3291, Supp.4; 6M-3292, Supp. 3; 6M-3293, Supp 3; 6M-3298, Supp. 3; 6M-3299, Supp. 3; 6M-3300, Supp. 3; 6M-3301, Supp. 3; and 6M-3309, Supp.2)	
	1-118	12/9/55	P-114 Phosphor for Charactron Tubes	
	1-123	12/15/55	Master Reference List AN/FSQ-7 (XD-1) Specifications (6M-3851 and Supp 1)	This supersedes information previously released by TIR's 1-8, 1-16, 1-46, 1-52, and 1-101.
	1-124	12/27/55	Master Reference List AN/FSQ-7 Specifications (6M-3884-1)	This supersedes information previously released by TIR's 1-48 and 1-97.

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	<u>T.I.R. #</u>	<u>Date</u>	<u>Material Released</u>	<u>Remarks</u>
II. Combat Center and Direction Center Equip. (cont.)	1-126	12/22/55	Specifications for Utilizing the Kelvin and Hughes Rapid Processing Photographic Projector System in the XD-1 Command Post (6M-4017)	
	1-131	1/11/56	Magnetic Tape Units for MTC	
	1-132	1/24/56	Specifications for AN/FSQ-8 Combat Control Central (6M-4106)	
	1-134	1/20/56	Master Reference List of Equipment Specifications for XD-1 (6M-3851-1, Supp.2)	
	1-135	1/20/56	Master Reference List AN/FSQ-7 Specifications (6M-3884-1, Supp.1)	
	1-136	1/24/56	Master Reference List AN/FSQ-7 Specifications (6M-3884-1, Supp.2)	

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	<u>T.I.R. #</u>	<u>Date</u>	<u>Material Released</u>	<u>Remarks</u>
II. Combat Center and Direction Center Equip. (cont.)	<u>1-137</u>	1/23/56	Supplements to AN/FSQ-7 Specifications (6M-3291, Supp 5; 6M-3292, Supp 4; 6M-3293, Supp 4; 6M-3297, Supp 3; 6M-3298, Supp 4; 6M-3299, Supp 4; 6M-3301, Supp 4; 6M-3309, Supp 3.)	
	<u>1-145</u>	3/21/56	Supplements to AN/FSQ-7 Specifications (6M-3291, Supp.6; 6M-3293, Supp. 5; 6M-3297, Supp 4; 6M-3299, Supp 5; 6M-3300, Supp 4; 6M-3301, Supp 5.)	
	<u>1-148</u>	3/7/56	Master Reference List of Equipment Specifications For XD-1 (6M-3851-1, Supp 3)	
	<u>1-152</u>	3/26/56	Master Reference List AN/FSQ-7 Specifications (6M-3884-1, Supp.3); Specifications for the Power Conversion and Distribution System for AN/FSQ-7 (6M-3297, Supp 5)	

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	<u>T.I.R. #</u>	<u>Date</u>	<u>Material Released</u>	<u>Remarks</u>
III. Communications	1-17	9/2/54	Proposal for Communication Between AN/FSQ-7 and F-99 Bases (M-2848-1)	
	1-31	10/8/54	Proposed Program for DDR and DDT (XD-1) (6M-2924)	
	1-41	11/26/54	Tactical Telephone System (XD-1) (6M-3000)	
	1-61	3/1/55	Communications: Texas Tower to Shore via Tropospheric Scatter (Group Report 36-3)	
	1-68	3/29/55	Ground-to-Ground Outputs from the SAGE System (6M-3266)	
	1-70	3/31/55	Number of Active Data Circuits from a Long Range Radar Site (6M-3396)	
	1-84	7/18/55	External Communications, Combat Center AN/FSQ-8 (ADES manual)	
	1-87	7/22/55	SAGE Ground-to-Air Radio (Group Report 311-3)	
	1-88	7/22/55	Alternate Routing of Point-to Point Communications for Texas Towers (Group Report 311-4)	

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III. Communications (cont.)	1-103	9/26/55	Ground-to-Air Data Link Subchannel Selector Switch (6M-3873)	
	1-109	10/14/55	Internal Communications, Combat Center (ADES Manual)	
	1-117	12/9/55	Internal and External Communications, D.C. (ADES Manual)	
	1-125	12/30/55	Digital Data Transmitters and Receivers for SAGE Equip. (6M-3996 and LLDR's 144, 291, and 421.)	
	1-128	12/20/55	Antenna Layout at SAGE Radio Communications Installations (Group Report 311-6)	
IV. Inputs and Outputs	1-18	9/7/54	SAGE Equipment at Heavy Radar Sites (Group Report 20-1)	
	1-19	9/7/54	Pre-SAGE Equipment at Heavy Radar Sites (Group Rep. 20-2)	
	1-47	12/2/54	Compatibility of 6 μ sec Pulse With SAGE System	

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IV. Inputs and Outputs (cont.)	1-51	12/17/54	Principles to be Followed for Selecting Radars for Each Subsector Direction Center (6M-3162-1)	
	1-56	2/1/55	Recommended Quantities of Input and Output Equipment for the First and Second AN/FSQ-7's (6M-3267-2)	
	1-58	2/23/55	SAGE Equipment List for a Combined Heavy Radar and Radio Site (Group Report 20-3) (revised)	This supersedes information previously released on TIR 1-42.
	1-62	2/24/55	SAGE Equipment List for A Surveillance Radar Station (Group Report 20-4)	
	1-76	5/27/55	Data Input Specifications to AN/FST-2 Coordinate Data Transmitting Set (Group Report M 24-48)	
	1-81	7/6/55	Location and Orientation of Radar Sites (Group Report 22-5)	
	1-104	9/26/55	Procedure for Orientation of AN/FST-1 Azimuth Markers for the SAGE System (Group Rep. 22-6)	

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IV. Inputs and Outputs (cont.)	1-105	9/27/55	Proposed Site and Equipment Locations in the Experimental Subsector (6M-3515-2)	
	1-110	10/27/55	Procedure for Orientation of AN/FST-2 Azimuth Markers for the SAGE System (Group Rep. 22-7)	
	1-112	11/8/55	Radar Performance for the SAGE System (Group Report 21-1)	
	1-127	12/29/55	Meeting on Random Access PPI (2M-0003); Random Access PPI (Group Report 24-55)	
	1-144	2/28/56	Height Finder Request Word Problem (6M-4096); Revision of H/F Request Word in AN/FST-2 (2M-0031, Rev. 1)	
	1-149	3/8/56	ESS Utilization of the Manual Height Finder at Pigeon Hill, Martha's Vineyard and South Truro (6M-4111)	
V. Operations	1-79	6/30/55	Radar Data Capacity of AN/FSQ-7 (6M-2769, Supp. 1)	

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V. Operations (cont.)	1-116	12/8/55	Operational Specification for Track Detection and Initiation in the SAGE System (6M-3766-1 and correction 1)	
	1-119	12/15/55	Operational Specifications for the Manual Data-Input Function in the SAGE System (6M-3814-1)	
	1-120	12/15/55	Use and Presentation of Weather Data in the SAGE System (6M-3778-1)	
	1-121	12/15/55	Operational Specifications for Raid Forming in a SAGE Direction Center (6M-3720-1)	
	1-122	12/15/55	Operational Specifications for Subsector Command Post in the SAGE System (6M-3795-1)	
	1-129	1/6/56	Operational Specification for Automatic Tracking in the SAGE System (6M-3836-1 and correction 1)	

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V. Operations (cont.)	1-143	3/2/56	Changes in Operational Specifications for the Manual Data-Input Function in the SAGE System (6M-3814-1, Supp. 1)	
VI. Personnel	1-10	8/6/54	Training Program for A. F. Personnel (M-2902 and M-2947)	
	1-28	10/1/54	Training Program for A. F. Personnel (M-2947, Supp. 1 and Supp. 2)	
	1-77	5/31/55	Air Force Personnel Required for the Experimental Subsector (6M-3570 and Supp. 1)	
	1-138	2/2/56	Proposed Direction Center Operations Personnel Requirements (38-5508, Series B)	
VII. Test Planning	1-115	12/2/55	Test Equipment List for SAGE Subsystems (LLDR-527)	
	1-133	1/18/56	Test Concepts for SAGE Height Finder Input Subsystem (6M-4057-1)	
	1-139	2/6/56	Test Concepts for SAGE Gap Filler Input Subsystem (2M-0008, Revision 1)	

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VII. Test Planning (cont.)	[1-140]	2/2/56	Test Concept for SAGE Wire Communications (6M-4102)	
	[1-141]	2/10/56	Test Concepts for SAGE Crosstelling Subsystem (6M-4078-1)	
	[1-146]	3/6/56	Test Concepts for SAGE Ground-to-Air Data Link Subsystem (6M-4094)	
	[1-150]	3/12/56	Test Concepts for SAGE Automatic Teletype Output Subsystem (6M-4136)	
	[1-151]	3/12/56	Test Concepts for SAGE Long Range Radar Data Input Subsystem (6M-4103)	
VIII. Schedules	1-69	4/1/55	Engineering- Installation Phasing Committee, Sum- mary Report No. 6	

NOTE: T. I. R.'s released since last issue of this summary are preceded by a bracket ([]).

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