

REF ID: A5815P
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DEPARTMENT OF THE ARMY
HEADQUARTERS ARMY SECURITY AGENCY
WASHINGTON 25, D. C.

48-20-544

4 August 1949

SUBJECT: Notification of and Agenda for Army Security Agency Technical Committee Meeting #6L

TO: Chief, AS-90
Attn: Mr. Frank Rowlett

1. There will be a meeting of the Army Security Agency Technical Committee at 1015 hours, 19 August 1949, Room 117, Headquarters Building, Arlington Hall Station.

2. The following items will be presented for consideration by the Committee:

<u>Pages</u>	<u>Item</u>	<u>Subject</u>	<u>Agencies Concerned</u>	<u>To Be Presented By</u>
3 - 8	#33	Initiation of Project #1-29-70-006, ASAF 32	ASA Navy USAF Natl. Bureau of Standards	Mr. Leo Rosen Code 147 Ext 284
9 - 15	#34	Initiation of Project #1-29-70-007, ASAF 33	ASA Navy USAF	Mr. Leo Rosen Code 147 Ext 284
16 - 18	#35	Type Classification of ASAN 13	ASA Navy	Mr. R. C. Hix Code 147 Ext 427

3. The following items will be presented for information and record:

<u>Pages</u>	<u>Item</u>	<u>Subject</u>
19	#36	Three Channel Printer Equipment ASAN 8
20	#37	Service Project Priorities

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Agenda Page 1

<u>Pages</u>	<u>Item</u>	<u>Subject</u>
21	#38	Project Title Change
22	#39	Project Title Change
23	#40	Cancellation of Projects

4. In the event that additional information with reference to the above noted items is desired prior to presentation, it is requested that the individuals indicated above be contacted immediately so that questions may be clarified prior to presentation.

5. In the event that your office is interested in the items mentioned and a representative of your office will not be present, it is requested that the Secretary, Lt. Mac C. Eversole, Code 147 Ext 216 or 489, be advised prior to the date of the meeting of your concurrence in such action as the Committee may take on these items.

Charles H. Hiser
CHARLES H. HISER
Lt. Colonel, Signal Corps
Chairman, ASATC

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ITEM # 33

SUBCOMMITTEE REPORT FOR THE ARMY SECURITY AGENCY TECHNICAL COMMITTEE

SUBJECT: Initiation of Project 1-29-70-006, ASAP 32

1. REFERENCE:

IRS from AS-77 to AS-71, dated 13 May 1949, Subject: Initiation of Project.

2. DISCUSSION:

a. Agencies concerned:

- (1) Cognizant Agency: Army Security Agency
- (2) Directing Agency: Army Security Agency
- (3) Requesting Agency: Army Security Agency
- (4) Participating Agency: National Bureau of Standards
- (5) Coordinating Agency: Navy
- (6) Other Probable Interested Agency: USAP

b. Purpose:

To develop an electronic digital computer particularly adapted for cryptologic problems.

c. Description:

An Electronic Digital computer with an internal memory of 1024, 44 digit words, plus an external magnetic tape memory, and electronic circuits to perform a minimum of 14 orders such as add, subtract, multiply, divide, compare, substitution, shift and branch orders.

d. Related Material:

None

e. Development History and Status:

Research studies have been made. The orders for the equipment have been determined and basic circuit construction has been initiated.

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f. Proposed Development:

This project will be local and contract.

(1) Phases of the project include

- (a) Further research study
- (b) Development and construction of equipment
- (c) Engineering tests

(2) One engineering test model will be required.

(3) Priority 1-B is recommended because of the operational requirement.

(4) Estimated cost of this project FY 50 - \$150,000, FY 51 - \$100,000. In FY 49 approximately \$250,000 was spent under Project No. J29-70-001 on supporting research and development.

(5) Research started under Project No. J29-70-001. Project J29-70-006, ASAF 32, will be completed approximately 30 June 1951.

g. Security Classification:

The equipment shall be classified as CONFIDENTIAL. The Military Characteristics shall be classified as CONFIDENTIAL.

3. RECOMMENDATIONS:

The Subcommittee recommends that:

- (a) Military Characteristics of ASAF 32 be approved.
- (b) Project No. J29-70-006, ASAF 32, be initiated, classified as development type and assigned a 1-B priority.
- (c) The RDB Master Plan Technical Objective be IO-4.

4. EXHIBITS:

Military Characteristics for ASAF 32.

5. COORDINATION:

Coordination was accomplished with USCRAD.

LEO ROSEN
Chairman, Cryptologic
Subcommittee, ASATC

~~CONFIDENTIAL~~Prepared by Cryptologic SubcommitteeDate 8 June 1949Approved by ASATC

Date _____

MILITARY CHARACTERISTICS for ASAF 32Submitted by CSGAS-77Date 13 May 1949I - GENERAL INFORMATION1. Objective

a. There is a military requirement for a high speed electronic digital computer particularly adapted for cryptologic problems.

2. Proposed Service Employment

a. Equipment will be utilized at Headquarters, Army Security Agency.

b. This equipment shall be designed as a fixed installation.

II - OPERATIONAL CHARACTERISTICS1. Security

Not applicable

2. Functional Requirements

a. The equipment shall have a high speed internal memory of 1024, 44 digit words. An external magnetic tape memory with a capacity of 65,000 words per tape and the possibility of the use of 64 tapes.

b. The repetition rate of the digits in the internal memory mentioned above shall be a minimum of 1 megacycle.

c. The machine shall be capable of performing fourteen (14) orders.

d. The external memory shall consist of reels of magnetic tape on which all data and/or controlling orders are stored.

e. Information shall be transferred from the external memory to the internal memory which shall consist of 128 recirculating acoustic delay lines each capable of storing 384 digits (8 words).

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f. All the orders shall be accomplished in the arithmetic unit and the result returned to the internal memory and in turn read out to the external memory.

g. All operations of the machine shall be controlled from the control unit.

3. Range of Transmission/Reception

Not applicable

4. Radio Interference Reduction (including anti-jamming)

Should cause no interference with equipment operating in the same general area.

5. Spurious Radiation of Cleartext

Not applicable

6. Stability

Not applicable

7. Resolution

Not applicable

8. Power Requirement (voltage, frequency, wattage)

a. 220V, 60cps, 50KW three ϕ .

b. No emergency standby power necessary.

c. Permissible frequency variation $\pm .1$ cps, voltage variation $\pm 10\%$.

9. Equipment Operating Position Requirements

Not applicable

10. Special Features

Not applicable

III - PHYSICAL CHARACTERISTICS

1. Weight and Volume Factors

a. Maximum weight will not exceed the floor loading of 125 lbs. per square foot.

b. No maximum limits on volume.

2. Arrangement and Coordination of Component Units

Not applicable

3. Arrangement and Coordination of Crypto-Equipment in relation to Associated Equipment

Not applicable

4. Operation, Transportation, Packaging, and Storage Requirements

a. To stand shock in normal shipment within the zone of the interior.

b. Not applicable

c. 80°F \pm 5 Degrees temperature; 55% \pm 5% relative humidity.

d. Shall be air transportable for use in Phase IV of air operations.

5. Destruction Requirements

Not applicable

6. Special Features

Not applicable

IV - EQUIPMENT OPERATION AND MAINTENANCE CHARACTERISTICS

1. Operating Time (hours per day)

24 less 2 for maintenance period.

2. Permissible Scope of Continuous and Periodic Adjustments, Tuning, Calibrating, Maintenance, etc.

Not applicable

3. Safety Features

a. Fuses and inter-locks will be provided in all cases where necessary to insure safety of all personnel and equipment..

4. Maximum Acceptable Preparation Periods from Packaged for Storage or Shipment Conditions to Secured or Power Off Conditions

Not applicable

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5. Maximum Acceptable Preparation Periods from Secured or Power Off Conditions

- a. 4 hours to semi-readiness.
- b. 4 hours, 1 minute to full operation.

6. Personnel Considerations

One skilled operator, two engineers and two skilled technicians for maintenance.

7. Equipment Arrangements to Promote Operators Efficiency

As efficient as possible consistent with functional characteristics.

8. Special Features

Not applicable

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ITEM#34

SUBCOMMITTEE REPORT FOR THE ARMY SECURITY AGENCY TECHNICAL COMMITTEE

SUBJECT: Initiation of Project #1-29-70-007, ASAP 33

ITEM #34 will be available at the meeting. In the event it is required prior to the meeting it may be obtained from the Secretary, 1st Lt., Mac C. Eversole, Room 319, Headquarters Building, Arlington Hall Station, Code 147 Extension 216.

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ITEM # 35

SUBCOMMITTEE REPORT FOR THE ARMY SECURITY AGENCY TECHNICAL COMMITTEE

SUBJECT: Type Classification of ASAN 13

1. REFERENCES:

IRS from AS-94 to AS-20 through AS-90, Subject: Type Classification of Rock Terminal Equipment, dated 1 April 1949.

2. DISCUSSION:

a. Agency concerned:

(1) Using Agency: Army Security Agency

(2) Other probable interested Agencies: Navy

b. The purpose of the equipment is to receive, demultiplex and print foreign 2-6-9 channel time multiplexed, automatic, radio printer traffic.

c. One complete equipment comprises a standard cabinet rack of electro-mechanical gear and 9 modified Model 14 Teletype typing-reperforators. One major component of this equipment, the electro-mechanical, demultiplexing distributor, can be replaced with other distributors for processing different types of time multiplexed, radio printer traffic. It is contemplated that such additional distributors will be developed in the future.

d. Related materiel:

(1) A radio intercept receiving system is required in conjunction with this item.

(2) There is no available existing equipment for the same or similar purposes, so there is no improvement of the item over existing materiel.

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(3) There are no existing items which must be modified and new items which must be classified before issue of this item can be accomplished.

(4) There is no stock status of an item being replaced or superseded since there is no other existing equipment.

e. A development project was initiated on 4 September 1946 by Army Security Agency. An engineering model was developed and used as a basis for preparing specifications for the procurement of twenty-five (25) service test models by contract and for producing twenty (20) models by Army Security Agency. The contract was executed with Industro-Matic Corporation of America on 30 June 1947 and was completed on 23 May 1949. The models developed by Army Security Agency were completed on 25 July 1948. All forty-five (45) equipments have been issued to the field for service testing. Test results indicate that this equipment is satisfactory for classification.

f. Item is new type.

3. PERTINENT DATA:

a. This equipment is non-expendable.

b. The estimated unit cost in small quantity procurement is \$5,000.00.

c. No formal military characteristics were prepared, but performance specifications were written. The equipment meets the requirements of these specifications.

d. The number of units procured, on hand, and on outstanding contracts is forty-five (45).

e. Future procurement of the item is contemplated.

f. Facilities exist for reproduction of this item, and no unforeseen complications are expected with the procurement of other classified items.

g. No large quantity production is contemplated.

h. No strategic or critical materials are required in significant quantities.

i. Training courses have been established at Army Security Agency school for the instruction of using troops. One enlisted man specialist having MOS 1799 (Non-Morse Operator) is required for the operation of each item and one enlisted man specialist having MOS 868 (Non-Morse Maintenance) is required for the maintenance for five (5) units of this item.

j. Training and maintenance literature is available in sufficient quantities.

k. Security classification of this item is CONFIDENTIAL.

l. This item is air transportable, and when so transported it will be packaged for shipment in compliance with current directives. It may be used in phase four (4) of air operations.

4. RECOMMENDATIONS:

a. The official name for this item to be ASAN 13.

b. Classification as STANDARD TYPE. The equipment is now classified DEVELOPMENT TYPE.

c. No item is being replaced or supplemented.

d. The project will be continued to develop supplementary electromechanical commutators.

e. The Army Security Agency be charged with the preparation of specifications, determination of requirements, provision of funds, purchase, inspection, storage, issue, and maintenance of this item.

f. This item is non-expendable and will have a life expectancy of from three (3) to five (5) years.

g. The ASAN 13 be supply class IV.

h. The initial quantity of the ASAN 13 be forty-five (45).
(The number now on hand).

5. EXHIBITS:

None.

6. COORDINATION:

There was no coordination as to type classification with any other Agency.

R. C. HIX
Chairman, Intercept &
D.F. Subcommittee, ASATC

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ITEM # 36

MEMORANDUM FOR THE RECORD OF THE ARMY SECURITY AGENCY TECHNICAL COMMITTEE

SUBJECT: Three Channel Printer Equipment, ASAN 8

1. Reference:

IRS through AS-90 and AS-20 to AS-70 from AS-94, subject, "ASAN 8 Terminals," dated 25 April 1949 with two (2) comments.

2. The above referenced IRS authorized the construction of four (4) service test units of the ASAN 8 terminal in addition to eight (8) previously authorized.

3. Authorization for construction of a total of twelve (12) service test units of the ASAN 8 terminal is hereby made a matter of record.

MAC C. EVERSOLE
1st Lt., Signal Corps
Secretary, ASATC

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ITEM # 37

MEMORANDUM FOR THE RECORD OF THE ARMY SECURITY AGENCY TECHNICAL COMMITTEE

SUBJECT: Service Project Priorities

1. Reference:

IRS from AS-71 to AS-24, subject, "Research and Development Service Projects," dated 27 May 1949, with four (4) comments.

2. Priorities for research and development service projects within Army Security Agency have been assigned as follows in accordance with SR-705-5-1 and SR 705-20-1:

<u>D.A. Number</u>	<u>Title</u>	<u>Priority</u>
1-29-09-001	Cryptanalytic Research	1-C
1-29-09-002	Documents Research	1-C
1-29-48-008	Relay Aids and Analogues	1-C
1-29-66-001	Machinery Exploitation	1-C
1-29-66-004	Adaptation of ASAF 14 for Multi-Notch Rotor Machines	3-A
1-29-66-006	Engineering Service - R&M Equipment	2-C
1-29-66-008	ASAF 43	1-C
1-29-66-009	Diagonal Board Connector for ASAF 14	1-C
1-29-66-022	ASAF 40, ASAF 41	1-C

MAC C. EVERSOLE
1st Lt., Signal Corps
Secretary, ASATC

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ITEM # 38

MEMORANDUM FOR THE RECORD OF THE ARMY SECURITY AGENCY TECHNICAL COMMITTEE

SUBJECT: Project Title Change

1. Reference:

IRS to Army Security Agency Technical Committee through AS-70 and AS-20 with three (3) comments, Subject: Changes in Project Titles, dated 27 April 1949.

2. The following project title change was approved by above referenced IRS and is hereby made a matter of record:

DA Project #1-29-32-002.

Old Title: Construction of Six Channel Multiplex Terminal.

New Title: Electromechanical Demultiplexer.

The old title was descriptive of only the first phase of this project.

MAC C. EVERSOLE
1st Lt., Signal Corps
Secretary, ASATC

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ITEM # 39

MEMORANDUM FOR THE RECORD OF THE ARMY SECURITY AGENCY TECHNICAL COMMITTEE

SUBJECT: Project Title Change

1. Reference:

IRS from AS-71 to AS-20, subject, "Change in Project Title," dated 10 May 1949, with seven (7) comments.

2. The above referenced IRS approved the title change of DA project #1-29-70-002 from "Cryptologic Vacuum Tube Research" to "Varant" for the following reasons:

- a. Purposes of security.
- b. Convenience of a single word title.

3. This change in project title is hereby made a matter of record.

MAC C. EVERSOLE
1st Lt., Signal Corps
Secretary, ASATC

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ITEM # 40

MEMORANDUM FOR THE RECORD OF THE ARMY SECURITY AGENCY TECHNICAL COMMITTEE

SUBJECT: Cancellation of Projects

1. Reference:

IRS from AS-24 to Secretary, Army Security Agency Technical Committee, subject as above, dated 29 July 1949.

2. The following research and development service projects were cancelled by the above referenced IRS and such cancellations are hereby made a matter of record:

- a. DA #1-29-09-001 TIMBER
- b. DA #1-29-09-002 FAN
- c. DA #1-29-08-001 Cryptographic System Research.

MAC C. EVERSOLE
1st Lt., Signal Corps
Secretary, ASATC