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Administrative Memorandum A-42

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Project Whirlwind
Servomechanisms Laboratory
Massachusetts Institute of Technology
Cambridge, Massachusetts

SUBJECT: BI-WEEKLY REPORTS

To: 6345 Staff
From: Jay W. Forrester
Date: December 11, 1947

*A 31343
FB-401*

The first bi-weekly engineering report from each staff member will be due at 3:00 p.m. on Friday, December 12, 1947 and each second Friday thereafter. These results will be consolidated by Mrs. Cox on Monday and will be distributed as soon as possible to all staff members.

Comments from each staff member should be concise but should convey the scope of his work. No attempt should be made to give detailed technical discussions, since these bi-weekly reports cannot replace R, E and M series documents. A few well chosen sentences will usually be sufficient.

The following items should be covered:

- A. Nature of present work.
- B. Results of greatest interest.
- C. Future plans.
- D. Difficulties and delays.
- E. Identification of more detailed write-ups in the R, E or M series.

*Lunch Hours
Rm 157*

The Item D. is of importance since some other member of the Laboratory may be able to assist in providing missing information or materials.

All reports should be on Inter-Office Correspondence Forms which may be obtained from the Instrument Room. The original and first carbon should be submitted to my secretary. They may be handwritten or typed. Material should be classified as shown in the Decimal Index at the end of this memorandum. Each decimal classification should be on a separate correspondence sheet to facilitate sorting into order for typing. Classifications will be added and deleted as the project work changes.

Bi-weekly reports will be typed as M series memoranda. My secretary will sort them by sections and submit the material to the section editor or his alternate as shown at the end of this memo.

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Section 11 will be used for general information on the drafting and laboratory loads and on facilities and services which may be available.

Section 11.1 on publications will list all R, E and M series memos which are of general interest and will list material recently added to the library.

The bi-weekly report will be typed in two parts, the first including Sections 1 through 5, and the second including Sections 6 through 12. The first part relates directly to Whirlwind I design and construction and will be exchanged with Sylvania for coordination of effort. Sylvania is preparing a similar bi-weekly report.

Both sections will be distributed to all staff members.



Jay W. Forrester

JWF:bc

DECIMAL CLASSIFICATION

BI-WEEKLY REPORT

PART I

December 11, 1947

1.0 WHIRLWIND I COMPUTER ELEMENTS

1.1 Listed by Block Diagram Number

- 101 Master Clock
- 102 Program Counter
- 103 Program Register
- 104 Control Switch
- 105 Operation Matrix
- 106 Time Pulse Distributor
- 107 Operation Timing Matrix
- 108 Program Timing Matrix
- 201 Storage Switch
- 202 Toggle Switch Storage
- 203 Flip-flop Storage
- 300 Arithmetic Control
- 301 A Register
- 302 Accumulator
- 303 B Register
- 305 Step Counter
- 500 Input and Output Registers
- 601 Check Register
- () Operators Console

1.2 System Engineering

- 1.21 Power Control and Distribution
- 1.22 Power Cabling
- 1.23 Video Cabling
- 1.24 Driver panels

1.3 Auxiliary Equipment

- 1.31 Power Supplies
- 1.32 Air Conditioning
- 1.33 Cabinets

1.4 Unclassified

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2.0 WHIRLWIND I RESEARCH

2.1 Circuits

- 2.11 Flip-flop Design and Stability
- 2.12 Coupling Methods
- 2.13 Bus Drivers
- 2.14 Mixing Circuits
- 2.15 Restorer operation without Trigger Tube

2.2 Components

- 2.21 Black-out
- 2.22 Pulse Transformers
- 2.23 SR-1030 tests and specifications

2.3 Systems

- 2.31 Timing Studies

2.4 Unclassified

3.0 SPECIAL CIRCUITS

3.1 Five-digit Multiplier

3.2 Test Equipment

- 3.21 Standard
- 3.22 Special

3.3 Unclassified

4.0 BLOCK DIAGRAMS

5.0 CHECKING METHODS

DECIMAL CLASSIFICATION

BI-WEEKLY REPORT

PART II

December 11, 1947

6.0 MATHEMATICS

7.0 INPUT AND OUTPUT

- 7.1 Eastman Kodak Recorders
- 7.2 Analog to Binary Conversion
- 7.3 Binary to Analog Conversion
- 7.4 Magnetic Recording
- 7.5 Unclassified

8.0 STORAGE TUBES

8.1 Tube Construction and Testing

- 8.11 Tube Construction and Processing
- 8.12 Tube Testing
- 8.13 Storage Tube Demonstration

8.2 Storage Tube Research

- 8.21 Surface Material Characteristics
- 8.22 Anodizing
- 8.23 Output System Circuits
- 8.24 Storage Tube Demonstration
- 8.25 Electrolytic Tank
- 8.26 Library Research
- 8.27 Gas Data Storage

8.3 Unclassified

9.0 SERVOS AND SIMULATION

9.1 Cockpit

- 9.11 Structure
- 9.12 Instruments
- 9.13 Control Force Loading
- 9.14 Elastance, Backlash, Coulomb Friction

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9.0 SERVOS AND SIMULATION (Continued)

9.2 Sampling Servo Stability Study

9.3 Unclassified

10.0 TRAINING

10.1 Seminar Series

11.0 FACILITIES AND CENTRAL SERVICE

11.1 Publications

11.2 Standards Committee

11.3 Purchasing - Stock

11.4 Electronic Construction

11.5 Drafting

11.6 Unclassified

12.0 GENERAL

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	<u>SECTION EDITOR</u>	<u>ALTERNATE</u>
1.0	Fahnestock	Taylor
2.0	Fahnestock	Brown
3.0	Forrester	Fahnestock
4.0	Everett	Forrester
5.0	Forrester	Fahnestock
6.0	Franklin	Everett
7.0	Forrester	Wieser
8.0	Dodd	Youtz
9.0	Wieser	Forrester
10.0	Everett	Forrester
11.0	Boyd	Proctor
12.0	Forrester	