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Administrative Memorandum A-42-1

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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, Revised March 3, 1948

The first bi-weekly engineering report from each staff member will be due at 3:00p.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.

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

March 3, 1948

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 WINDMILL RESEARCH

2.1 Circuits

- 2.11 Flip-flop Design and Stability
- 2.12 Coupling Methods
- 2.13 Fus 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 Vacuum Tube Studies
- 2.24 Crystal Rectifiers

2.3 Systems

- 2.31 Five-digit Multiplier

2.4 Unclassified

3.0 SPECIAL CIRCUITS

3.1

3.2 Test Equipment

- 3.21 Standard
- 3.22 Special

3.3 Unclassified

4.0 BLOCK DIAGRAMS

4.1 Timing Studies

5.0 CHECKING METHODS

DECIMAL CLASSIFICATION

BI-WEEKLY REPORT

PART II

March 3, 1948

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
- 7.6 Output Printers

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
 - 8.25 Electrolytic Tank
 - 8.26 Library Research
 - 8.27 Gas Data Storage
- 8.3 Unclassified
- 8.4 Deflection Circuits

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 SENSORS 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	