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Memorandum M-1592

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Digital Computer Laboratory
Massachusetts Institute of Technology
Cambridge, Massachusetts

SUBJECT: MTC POWER SUPPLY MEETING OF AUGUST 11, 1952

To: MTC Planning Group

From: R. Farmer and H. Smead

Date: August 12, 1952

Abstract: The final decision which has been reached on the type of power supplies to be used in the Memory Test Computer was discussed.

Present: R. Farmer K. Olsen
 J. Gano H. Smead
 W. Ogden N. Taylor

K. Olsen and W. Ogden listed the following voltage and current requirements for the computer and memory sections:

+ 250 V	-	3.5 A
+ 150 V	-	3.5 A
+ 120 V	-	.7 A
+ 90 V	-	.4 A
- 15 V	-	.4 A
- 30 V	-	
- 150 V	-	<u>7.7 A</u>
- 300 V	-	1 A
- 450 V	-	.3 A

These voltages will be furnished by three-phase double-
wye rectifiers in conjunction with series tube regulators. These
supplies are similar to the 500-V supply used in Whirlwind I. The
following supplies will be built to supply the required voltages:

1	250 V	10A
2	150 V	10A
2	150 V	5A
1	120 V	5A
1	90 V	5A
1	30 V	5A

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It is believed that only four supplies will need to be designed. These will be the 250V-10A, 150V-10A, 150V-5A, and 30V-5A. The 120V and 90V supplies will be the same as the 150V supply with the taps on the power input transformers adjusted to produce the required output voltage. To obtain the required -300V and -450V potential, voltages from the 150V-5A supplies will be combined with the output of a 150V-10A supply. The -15V potential can be obtained by a bleeder on the -30V supply.

All power supplied to the rectifier-regulator units will be pre-regulated by a motor-alternator set. The capacity of the alternator will be 50 KVA, which will also supply filament power. The capacity of the alternator was selected so as to anticipate the addition of components which are not included in the original design of MTC.

One-half of the supplies will be available by Jan. 1, 1953, and the remaining half by March 1, 1953. A request for 450 square feet of floor space in the basement of the Whittemore building will be made. This space will contain the complete power supply for MTC.

Dick Farmer will be transferred temporarily to the Barta building to aid in the design and testing of this equipment.


Howard Smead


Richard G. Farmer

HS:RGF/bs

Distribution: S. Dodd
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