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FUNCTIONS OF ELECTRONIC

CHASSIS IN N-530 BOMBE

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FUNCTIONS OF ELECTRONICCHASSIS IN M-530 BOMBEDiagonal Board and Diode Chassis

The diagonal board is the heart of the Bombe unit. Electrically, it is 26 groups of 26 points each with diagonal connections; groups being referred to as columns and like points in each group being referred to as rows. In this description, the terms "columns" and "points on columns" will be used. These columns are interconnected by what is known as diagonal wiring. The points on a column of the same number as the column, that is, point 1 on column 1, point 2 on column 2, are known as selfs. They have no connection in any other column. Points other than selfs are interconnected between columns in the following manner: A given point in a given column is directly connected to the point of the same number as the given column in the other column of the same number as the given point. For example: Point 2 on column 3 is directly connected to point 3 on column 2, and vice versa. Sufficient plugs and sockets are mounted for convenience in setting up problems and for servicing.

Included in this same chassis, are the diodes, whose plates are tied to the above mentioned points through 100,000 ohm resistors, and whose cathodes, for each column, are brought out to a socket which goes to the amplifier chassis. These diodes and their associated resistors serve the double purpose of preventing reverse currents from going back to the board and also of discrimination when searching the board for desired conditions.

Wheel Banks

The wheel banks are a highspeed switching arrangement. Given banks are connected between given columns and serve the purpose of switching connections between the points at a high rate of speed. Electrically, the conditions being searched for are those in which all the points except one in each of the columns used in the problem are tied together through the wiring in the banks, and these "free" points are tied to each other.

Resistor Board

The function of the Resistor Board Chassis is to provide energy by means of which a hit can be detected.

Amplifier Chassis

The functions of the Amplifier Chassis are two-fold; the first of which is as a means to detect the condition of a hit and also to determine whether or not that hit is useful. The amplifier chassis and the diode chassis together form a discriminator to detect the points of conflict in the hit.

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Relay chassis

The relay chassis primarily provides energy for stationary testing once a hit condition has been reached. Its further function is to control other operations. The relay chassis controls the printer and if the amplifier chassis finds a hit to be good, causes the printer to print. When the stationary test has been completed, it also gives the signal to continue to dynamic test, that is, to restart the machine.

Thyratron Chassis

The main purpose of the Thyratron Chassis is, as we run at high speed and receive a signal, to remember where that hit was received, and also to indicate when the machine has rewound to the position where the hit occurred. The auxiliary function is to indicate when the run has been completed, that is, it gives the final stop signal to the motor control chassis.

Motor Control Chassis

The motor control chassis starts and stops the forward motor as well as the rewind motor. It also gives the signal to the relay chassis to make the stationary test.

Printer

The printer prints the information on the diagonal board which the amplifier and diode chassis have found to be good. It also prints the position of the machine at which the hit was received.

Power Control Chassis

This chassis controls the power to all chassis.