

DECsystem-10
DECSYSTEM-20
Processor Reference Manual

AA-H391A-TK

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digital

F.2 KA10 Operation

Most of the controls and indicators used for normal operation of the processor and for program debugging are located on the console operator panel shown here. The indicators are on the vertical part of the panel; in front of them are two rows of two-position keys and switches (keys are momentary contact, switches are alternate action). A key or switch is on or represents a 1 when the front part is down.

The thirty-six switches in the front row and the eighteen at the right in the back row are respectively the data and address switches through which the operator can supply words and addresses for the program and for use in conjunction with the operating keys and switches. The correspondence of switches to bit positions is indicated by the numbers at the bottom row of lights. At the left end of the back row are ten operating switches, which supply continuous control levels to the processor. At their right are ten operating keys, which initiate or terminate operations in the processor. The names of the operating keys and switches appear on the vertical part of the panel below the lights.

Also of interest to the operator is the small panel shown overleaf, which is located above the main panel at the left of the tape reader. The upper section of this panel contains a total hours meter and the margin-check controls. The lower section contains the power switch, speed controls for slowing down the program, switches to select the device for readin mode (lower part in represents a 1), and four additional operating switches. The normal position for these last four is with the upper part in; in this position FM ENB (fast memory enable) is on, the others are all off.

Indicators

When any indicator is lit the associated flipflop is 1 or the associated function is true. Some indicators display useful information while the processor is running, but many change too frequently and can be discussed only in terms of the information they display when the processor is stopped. The program can stop the processor only at the completion of the HALT instruction; the operator can stop it at the end of every instruction or memory reference, or for maintenance purposes, after every step in any operation that uses the shift counter (shifting, multiplication, division, byte manipulation).

Of the long rows of lights at the right on the operator panel, the top row displays the contents of PC, the middle row displays the instruction being executed or just completed, and the bottom row are the memory indicators. The right half of the middle row displays MA, the left half displays IR.

