Title: Comments on lack of HALT instruction

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Index Keys: Instruction Set

Distribution
   Key: A, B

Obsolete: None

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Diagnostic programs currently rely on the HALT instruction to indicate error conditions in a computer. Thus HALT is the first instruction checked. Since the PDP-X lacks a HALT instruction, a "B ." instruction (jump to location currently specified by program counter) would be used. In this event, the branch instruction must be the first one checked. The diagnostic programming people have pointed out that "B ." is far more complicated (requires a working memory system) than HALT as the first instruction to be diagnosed.

From the operational point of view the use of "B ." is not objectionable provided the computer console clearly displays the instruction register and program counter without any manual intervention. In addition it would be highly desirable to be able to display the contents of any memory or general purpose register while the "B ." is in progress. Presumably, the normal restart procedures would be

1) to generate an external interrupt (hitting a teletype key, etc.) or

2) to hit STOP and then start at .+1 or some other pre-specified location. (This takes the place of HALT and CONTINUE).

It would be most undesirable for START to clear the PI system or clear any accumulators. (i.e., the I/O RESET and START functions should be on separate console switches).