



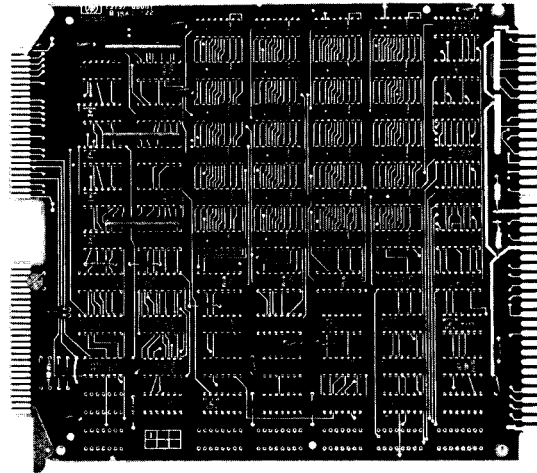
HP 1000 computers 1k writable control store

model 13197A

The 13197A Writable Control Store (WCS) provides 1024 words of control processor overlay memory. WCS allows the user to develop, debug, and test control processor programs using the HP 92061A RTE Microprogramming Package.

Written in a simple assembly language, control processor programs can increase subroutine performance by a factor of 2 to 20 times over conventional programming techniques.

Once developed, control processor programs may be implemented in two forms. First, they can be disc or main memory-resident and dynamically overlayed on 13197A writable control store memory space. These programs are loaded using RTE operating system-compatible software that treats the control processor as an allocatable resource. Alternatively, commonly-used control processor programs can be written into PROM memory and stored in non-volatile control processor memory space on user control store cards.



Features

- Provides 1K words of control processor overlay memory divided into 2 blocks of 512 words each
- Programmable module address space assignments for each module
- Compatible with all HP 1000 computers
- Low power consumption
- Fast 175 nanosecond cycle time
- Can be loaded using DCPC transfers at full DCPC transfer rate
- Up to three 13197A's may be used with HP 1000 computers
- Can override installed PROM-based subroutines
- Control processor programs can be shared between multiple users

Functional description

The 13197A WCS is a dual port memory. One port connects to the control processor's memory space, and the other to the HP 1000 Computer I/O backplane. Control processor subroutines are loaded into the 13197A using either programmed I/O or DCPC transfers at full bandwidth via the I/O backplane memory port. Standard I/O instructions are then used to configure control store module addresses and enable the control processor memory port, thereby granting access to the loaded subroutines by the control processor.

If the WCS is configured with the same module address as installed user PROM modules, those routines loaded into WCS are executed, taking priority over installed PROM subroutines. In this manner, the effective number of available control processor subroutine entry points is significantly increased.

Functional specifications

Organization

Words available: 1024 words, 2 modules of 512 words each

Word size: 24 bits

Access time: 132 nsec/maximum

Full microinstruction time: 325 nsec, (2105/2108/2112), 175-280 nsec, (2109/2111/2113/2117).

M-Series priority:

- 1) 1k WCS/2k UCS
- 2) Base set and 512-word UCS

E/F-Series priority:

- 1) 1k WCS
- 2) 2k UCS
- 3) E-/F-Series base set
- 4) FAB

Configuration information

I/O slots required: 1 (must be SC 10, 11, or 12)

Software required:

92061A

RTE microprogramming software package on paper tape

-020

Above on minicartridge for 2644A/45A

Software recommended: 24396F diagnostic on minicartridges

Installation: To install, insert WCS in I/O slot 10, 11, or 12 and connect the cable assembly.



Electrical specifications

Current required from computer power supply

2.2A(+5V), 0.007A(-2V).

Ordering information

13197A 1k Writable control store

The 13197A 1k Writable control store includes:

1. 13197-60001 Writable control store board.
2. 5060-8393 Flat cable assembly.
3. 13197-16002 Diagnostic on paper tape.
4. 13197-90001 WCS driver manual.
5. 13197-90002 Diagnostic manual.
6. 13197-90003 Reference manual (covers installation and service).