

# A new concept: HP 9915A Modular Computer

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It used to be that system designers who wanted to add intelligence to test or measurement systems had a limited number of product types to choose from: microprocessors, board and box computers, desktop computers and minicomputer systems.

Microprocessors offer low unit cost, but involve high development expenses. Desktop computers offer low development costs, but have higher unit costs. Board computers fall in between for both development and unit costs, while minicomputers generally have both higher development costs and higher unit costs than desktops.

Now there is another alternative — Hewlett-Packard modular computers.

A system designer can now have the low development costs of a desktop computer at the unit cost of a board computer, all in a package designed for the industrial use.

The HP 9915A Modular Computer is the first in this class of computers for dedicated test, measurement and instrument control applications. It is basically the heart of an HP-85 Desktop Computer (central processor, memory, operating system and I/O ports) in a small, rack-mountable box, perfect for instrument systems.

It gives system designers freedom to design exactly the operator interfaces they need without making them pay for features they don't need.

Many applications will require only the eight LEDs and four shiftable, software-definable Special Function Keys supplied on the front panel.

The 9915 also is available with an optional operator interface for easy



connection to the system designer's choice of CRT displays, keypads, typewriter keyboards and custom control panels and keyboards. So, along with low unit cost and low development cost, the 9915 offers design flexibility.

Development time can be cut because the 9915 is designed to run programs developed on the HP-85 Desktop Computer. With a 9915 Program Development ROM (read-only memory) and an I/O ROM installed, the HP-85 becomes a surprisingly inexpensive development station. A powerful, extended version of BASIC and an interactive, interpretive operating system make it possible to write and debug application software in a fraction of the time it would take using a lower-level language.

The HP-85, with all its interactive editing and debugging aids, also serves as a 9915 emulator for in-system software debugging. Then, software is transferred from the HP-85 to the 9915 via either EPROM (erasable programmable read-only memory) or magnetic tape cartridge (built-in tape drive is optional). The system can be up an

running months sooner than would be possible with a board computer, and development expenses are much lower. The hardware costs about the same as a board computer.

The 9915 Modular Computer has the same powerful, flexible I/O capabilities as the HP-85 from which it sprang. These include interrupt, bit manipulation, high-speed transfer, software control of interface configuration and easy data formatting. I/O drivers are built in and both machines use the same ready-made, plug-in interfaces:

- HP-IB (IEEE 488-1978)
- Serial (RS-232-C)
- GPIO (8-bit or 16-bit parallel)
- BCD (Binary Coded Decimal)

Extensive SELF TEST, AUTOSTART and error trapping capabilities make the 9915 ideal for applications requiring unattended operation.

Automating a test or measurement system can be a complex and expensive task — but it doesn't have to be. The HP 9915 Modular Computer provides a new, fast and cost-effective route to automation. 