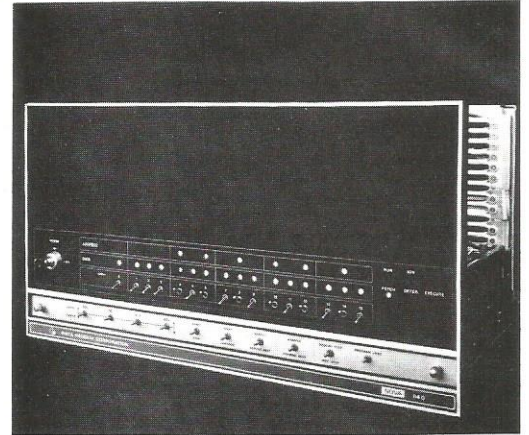


PRODUCT BRIEF

FEATURES

- Memory Management and Protection Unit
- Dual Operations capability
- Extensive software
- 16-bit, multi-accumulator architecture
- 0.8-microsecond memory cycle time
- 16-bit, single-word, multi-function instruction set
- Part of a family of compatible computers
- Packaged for reliability
- Memory expansion to 128K words
- High-speed Direct Memory Access data channel and 16-level priority interrupt structure standard
- Compatible options and peripherals



DESCRIPTION

The NOVA 840 has the most comprehensive set of software/hardware capabilities ever offered by Data General. It offers speed, throughput, easy access to systems resources, processing power and flexible input/output. These features make the

NOVA 840 well suited for data communications, real-time control, timesharing, batch processing, remote job entry and data collection/analysis applications.

MEMORY MANAGEMENT AND PROTECTION UNIT

The NOVA 840 operates with a Memory Management and Protection Unit (MMPU). MMPU permits memory expansion to 128K, privileged instructions, protection for I/O devices, and

both write and validity protection for main memory. With Data General's Real-time Disc Operating System, MMPU makes Dual Operations possible.

DUAL OPERATIONS

Dual Operations allows any two major systems programs to run simultaneously and independently, each with full, protected access to systems resources. For example, 32 terminals can

timeshare in BASIC, while a Batch stream runs. Or a Fortran 5 program can compile, while the system outputs management reports.

SOFTWARE

The Real-time Disc Operating System (RDOS) is probably the most versatile software set used with the NOVA 840. RDOS supports a Batch executive, Remote Job Entry software, Extended Fortran IV, Fortran 5, Extended Algol, and single-user and time-

sharing BASIC. Other software available with the NOVA 840 includes standard and relocatable assemblers, editors, cross assemblers (for IBM 360, Univac 1108, CDC 6600), diagnostics, and utility programs.

ARCHITECTURE

The NOVA 840 central processor is organized around four 16-bit accumulators. Two can be used as index registers. The multi-accumulator architecture reduces the number of instruc-

tions necessary to execute a program, and simplifies programming.

SPEED

The efficiency of the NOVA 840 architecture is reflected in its speed. The computer has a full memory cycle time of 0.8 micro-

seconds, and executes arithmetic and logical instructions in one cycle.

INSTRUCTION SET

The NOVA 840 uses 16-bit, single-word, multi-function instructions. For example, arithmetic and logical instructions, in addition to their eight basic functions, modify an operand, shift the result, and/or test the result. Altogether, a total of 256 variations can be performed on each arithmetic and logical instruc-

tion. Memory reference instructions move data between memory and accumulators, and modify program flow. Input/output instructions transfer data between accumulators and peripherals, and control those peripherals.

COMPATIBILITY

The NOVA 840 is one of nine NOVA computers. All use the same architecture, instruction set, software, basic mechanical

package, and interfaces to peripherals. Compatibility simplifies system expansion, computer upgrading, and maintenance.

RELIABILITY

The NOVA 840 has a superior mean-time-between-failure record. Its mechanical/electronic design ensures high-performance components, low parts counts, and a minimum of interconnections. Major subassemblies are packaged on a single printed

circuit board. A single etched back panel makes all interboard connections. Plug-in connectors are provided for commonly specified peripherals.

CONFIGURATIONS

The NOVA 840 contains two central processor boards, from two to sixteen 8K memory boards, and either contains or is wired for a Memory Management and Protection Unit. The NOVA 840

is rack-mountable, either 10 $\frac{1}{2}$ inches high with seventeen sub-assembly slots, or 21 inches high with 32 subassembly slots.

STANDARD FEATURES

The basic price of the NOVA 840 includes an I/O system with a 16-bit word length, programmed data transfer, automatic interrupt source identification, a 61-device addressing capability,

a 16-level programmed priority interrupt, and a high-speed Direct Memory Access data channel.

OPTIONS AND PERIPHERALS

Compatible options available include automatic program load, power monitor/auto restart, hardware multiply/divide, a high-speed Floating Point Unit, and a real-time clock. Standard peripherals include industry-compatible magnetic tape units, Data General Cassette units, Data General fixed

head discs, cartridge discs, disc pack drives, communications hardware, analog-to-digital and digital-to-analog converters, digital input/output units, line printers, a channel interface to IBM System 360/370 computer, plotters, card readers, paper tape equipment, teletypewriters, and video displays.

SPECIFICATIONS

GENERAL

Word Length: 16 bits.

Hardware Accumulators: 4.

Index Registers: 2 hardware, 16 memory.

Address Modes: Direct addressing of 1024 words via absolute, relative and indexed modes; multi-level indirect addressing of 32,768 words (to 131,072 words with MMPU).

Memory Cycle Time: 0.8 μ sec core memory.

Memory Capacity: 131,072 16-bit words (65,536 words accommodated in basic chassis).

Memory Increments: 8,192 16-bit core memory.

High-Speed Direct Memory Access Channel: Standard; maximum word transfer rate, 1.25MHz.

Input/Output System: 16-bit word length, 16 priority interrupt levels, 61 devices addressable.

I/O Bus Levels: Ground and +3 volts.

Power Requirements (17 slot chassis): 115 volts ($\pm 20\%$), 10 amps, or 230 volts ($\pm 20\%$), 5 amps; 47-63Hz, single-phase; 900 watts max power dissipation.

Power Requirements (34 slot chassis): 115 volts ($\pm 20\%$), 20 amps, or 230 volts ($\pm 20\%$), 10 amps; 47-63Hz, single-phase; 1800 watts max power dissipation.

UL Approved.

Heat Generated: 3000 BTU/hr max (17 slot chassis); 600 BTU/hr max (34 slot chassis).

MECHANICAL

Dimensions: 10 $\frac{1}{2}$ "H x 19"W x 23"D (17 slot chassis); 21"H x 19"W x 23"D (32 slot chassis).

Weight: 100 lbs.

Power Cable: 6' long, wired to computer; other end Belden NEMA-type 5-15P molded vinyl grounding plug.

ENVIRONMENTAL

Temperature Range: 0 to +55°C operating; -35°C to +70°C storage.

Relative Humidity Range: to 90% operating; to 95% storage.

Altitude Range: to 10,000' operating; to 50,000' storage.

SALES AND SERVICE

Southboro, Massachusetts 01772, (617) 485-9100, TWX (710) 390-0309, TLX 94-8460, Phoenix AZ, El Segundo CA, Palo Alto CA, San Diego CA, Denver CO, North Haven CT, Orlando FL, Atlanta GA, Des Plaines IL, Indianapolis IN, Louisville KY, Southfield MI, Minneapolis MN, Clayton MO, Saddle Brook NJ, Albuquerque NM, Commack Long Island NY, New York NY, Rochester NY, Schenectady NY, Syracuse NY, Greensboro NC, Chesterland OH, Dayton OH, Tulsa OK, Blue Bell PA, Pittsburgh

PA, Austin TX, Dallas TX, Houston TX, Salt Lake City UT, Falls Church VA, Renton WA, Calgary Alta., Edmonton Alta., North Vancouver B.C., Winnipeg Man., South Halifax N.S., London Ont., Mississauga Ont., Dollard-Des-Ormeaux P.Q., Hull P.Q., and in Australia, Austria, Costa Rica, Denmark, England, Finland, France, Hong Kong, Israel, Japan, Malaysia, Mexico, Netherlands, Scotland, Singapore, Spain, Sweden, Switzerland, West Germany

The materials contained herein are summary in nature, subject to change, and intended for general information only. Specifications and detailed information on the use and operation of

Data General equipment and software are available in the applicable technical publications, available by contacting local Data General sales representatives.

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