Nova 2 Computer Nova 2/10

FEATURES

- 4K, 8K, and 16K memories
- Compact, reliable packaging
- 16-bit, multi-accumulator architecture
- 16-bit, single-word, multi-function instruction set
- 10-slot, rack-mountable or table-top chassis
- High-speed Direct Memory Access data channel and 16-level priority interrupt structure standard
- Compatible options and peripherals
- Extensive software

DESCRIPTION

Data General's Nova 2 combines reliable Nova-line design concepts with new hardware and high-density packaging. The result is a computer that offers speed, throughput, compact subsystems, high-level software, and a wide range of peripherals, all at remarkably low cost. These features make Nova 2 well-suited for a variety of applications, including industrial control, data communications, scientific research, education, and business.

The Nova 2/10 is the larger Nova 2 model, with ten subassembly slots in its 10½-inch high chassis. It is useful in applications requiring numerous options, peripherals, and/or large amounts of memory.

MEMORY

Nova 2/10 is available with 4K, 8K, and 16K memory modules. Each memory module (including the 16K version) occupies only one subassembly slot. The 4K and 8K memories have an 800-nanosecond cycle time. The 16K memory has a 1000-nanosecond cycle time. Memories with different speeds can be used simultaneously in Nova 2/10. The effective cycle speed of the computer depends on the memory module being accessed.

Nova 2/10 has a full memory capacity of 32K 16-bit words (64K bytes).

RELIABILITY

Nova 2/10 uses large- and medium-scale integrated circuitry, high-density packaging, and a minimum of interconnections. Each major subassembly (including central processor unit, and 4K, 8K, and 16K memories) is mounted on a single printed circuit board. The power supply is a ferro-resonant design, and highly reliable. A single etched back panel makes all interboard connections. Plug-in connectors are provided for commonly specified peripherals.

ARCHITECTURE

The Nova 2/10 central processor is organized around four 16-bit accumulators. Two can be used as index registers. The multi-accumulator architecture reduces the number of instructions necessary to execute a program, and simplifies programming.

INSTRUCTION SET

The Nova 2/10 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 instruction.

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.

CONFIGURATIONS

The Nova 2/10 contains one central processor board, one or more memory boards, and space for additional memory and I/O subassembly boards. It is 10½ inches high, rack-mountable, or table-top.
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### STANDARD FEATURES

The basic price of the Nova 2/10 includes programmer’s console, an I/O system with a 16-bit word length, programmed data transfer, automatic interrupt source identification, a 62-device addressing capability, a 16-level programmed priority interrupt, a high-speed Direct Memory Access data channel, an external I/O bus connector, and a general-purpose I/O connector.

### OPTIONS AND PERIPHERALS

Standard options include automatic program load, power monitor/auto restart, a turnkey console, hardware multiply/divide, a high-speed Floating Point Unit, and a real-time clock. Standard peripherals include industry-compatible magnetic tape units, Nova Cassettes, fixed head Novadiscs, 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 computers, plotters, card readers, paper tape equipment, tele-typewriters, and Novadisplay terminals.

### SOFTWARE

Software available for the Nova 2/10 computer includes standard relocatable assemblers, editors, cross assemblers (for IBM 360, Univac 1108, CDC 6600), diagnostics, and utility programs. Extended Fortran IV, Fortran 5, Extended Algol, and single-user and timestepping BASIC are language processors which can be used with Nova 2/10. Three compatible operating systems are available: a Real-time Disc Operating System (RDOS), a Real-Time Operating System (RTOS), and a Stand-alone Operating System (SOS).

### SPECIFICATIONS

#### GENERAL

**Word Length:** 16 bits.

**Hardware Accumulators:** 4.

**Index Registers:** 2 hardware, 16 memory.

**Address Modes:** Direct addressing of 1024 words absolute, relative and indexed modes; multi-level indirect addressing of 32,768 words.

**Memory Cycle Time:** 800-nanosecond and 1000-nanosecond core memory.

**Memory Capacity:** 32K 16-bit words.

**Memory Increments:** 4K and 8K 16-bit words, 800-nanosecond memory; 16K 16-bit words, 1000 nanosecond 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, 62 devices addressable.

**I/O Bus Levels:** Ground and ±3 volts.

**Power Requirements:** 115 volts (+20%), 10 amps, or 230 volts (+20%), 5 amps, 50Hz (±1Hz) or 60Hz (±1Hz) single-phase; max power dissipation, 725 watts.

**Heat Generated:** 2500 BTU/hr max.

#### MECHANICAL

**Dimensions:** 10 1/2"H x 19"W x 24 1/4"D, 10 slots.

**Weight:** 115 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


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