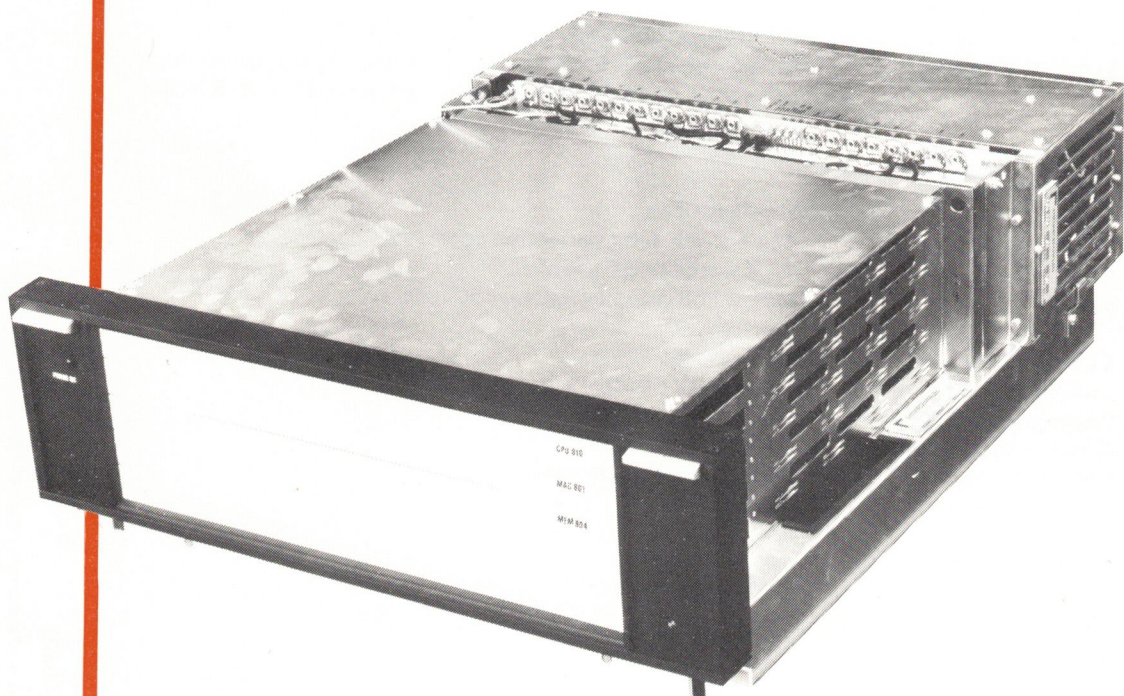




RC 8000/15

Central Unit

- 24-BIT WORD LENGTH
- LSI TECHNOLOGY
- MICROPROGRAMMED
- CONNECTED TO UNIFIED BUS
- MULTIPLY & DIVIDE
- FLOATING POINT ARITHMETIC
- REAL TIME CLOCK



GENERAL

The RC 8000/15 Central Unit is a medium size general purpose processor based on 24-bit words. The 64 basic instructions can work on 4 registers, and each instruction has a 12-bit displacement and 16 address modifications including relative, indexed and indirect addressing modes. A program protection system combined with a real time clock and a powerful interrupt system makes RC 8000/15 well suited for multiprogramming, applying virtual techniques. The main memory size is either 32 K words or 64 K words.

The unified asynchronous RC 8000 System Bus connects the central unit, the main memory and the disc controller. All peripherals are connected to the system by means of an intelligent controller which performs routine tasks pertaining to input/output operations thereby increasing the computing power of the central unit. The Bus is an independent system component and no connected unit has special status.

The RC 8000/15 System includes an input/output device controller, based on an RC 3600 minicomputer, by which a variety of peripheral devices can be connected.

CHARACTERISTICS

The combination of LSI technology and microprogrammed implementation of most CPU functions has made RC 8000/15 a very compact yet powerful central unit. The main memory access width is 1 word consisting of 24 data bits and a 5 bit error correction code applied by the memory control unit.

Integer arithmetic uses 24-bit-words, floating point and extended range integer arithmetic use 48-bit double words. 12-bit halfwords are directly addressable by special halfword instructions. Typical instruction execution time is 3 to 10 usec. Data manipulation is aided by halfword operations and word comparison functions. Logical operations permit setting and testing of single bits. An escape facility causes programmed action on preselected instructions. Program protection is obtained by means of memory limit registers and privileged instructions executable only in monitor mode. Dynamic program relocation is possible through use of modified base register technique. Transmission speed between system and input/output devices is 10 K bytes per second.

SPECIFICATIONS

CENTRAL PROCESSOR

Instruction exec. time:	From 3 usec. for a simple instruction to 50 usec. for floating point multiplication
Interrupt system:	8 internal and 8 external levels
Interrupt response:	10 usec.
Real time clock:	0.1 msec. resolution, 4 sec./24 hours stability
Standard features:	Power monitor, 5-bit correction code, Autoload via disc channel or device controller, Interrupt generating, 25.6 msec. interval timer.

MAIN MEMORY

Type:	semiconductor
Word length:	24 data bits, 5 bit correction code.
Capacity:	32 K words or 64 K words.
Speed:	access: 550 nsec., cycletime 600 nsec.

ELECTRICAL AND ENVIRONMENTAL

Line voltage:	220 V AC / 50 Hz
Power consumption:	400 W
Ambient temperature:	10-35°C (50-95°F)
Relative humidity:	20-80% (non-condensing)
Heat dissipation:	345 kCal/h

DIMENSIONS

Height:	22,2 cm (8 3/4")
Weight:	25 kg
Mounting:	any 19" cabinet.