# The i860™ Station

The 40-MHz i860™ Station is a high performance, turnkey software development platform for hardware and systems developers who are designing products using Intel's i860 64-bit microprocessor.

The i860 Station features a robust, AT&T Certified UNIX/860 System V Release 4.0, 16-bit color graphics, and a complete set of compilers and software development tools. It is a complete environment for developers needing to write system software, such as building device drivers and operating systems extensions. The i860 Station is configured to facilitate time-to-market for hardware developers using the i860 CPU for graphics and applications accelerators, supercomputers and other multi-processor systems, and workstations.

## Product Highlights

| Powerful Computing Performance | 40 MHz |
| --- | --- |
| SPECmark | 26.7 |
| FP SPECratio | 32.5 |
| MFLOPS (Peak, SP) | 80 |
| MIPS (Dhrystone ver 2.1) | 57.5 |

**High Resolution Color Graphics**
—1280 x 1024, 16 bits/pixel
—4 MB frame buffer

**A Complete Development Environment**
—AT&T Certified UNIX/860 System V release 4.0
—X 11.4 OPEN LOOK
—C and FORTRAN optimizing compilers
—NFS, TCP/IP

**Intel Support**
—Development tools hotline support
—i860 Platform Reference Design Guide available
—90-day on-site warranty
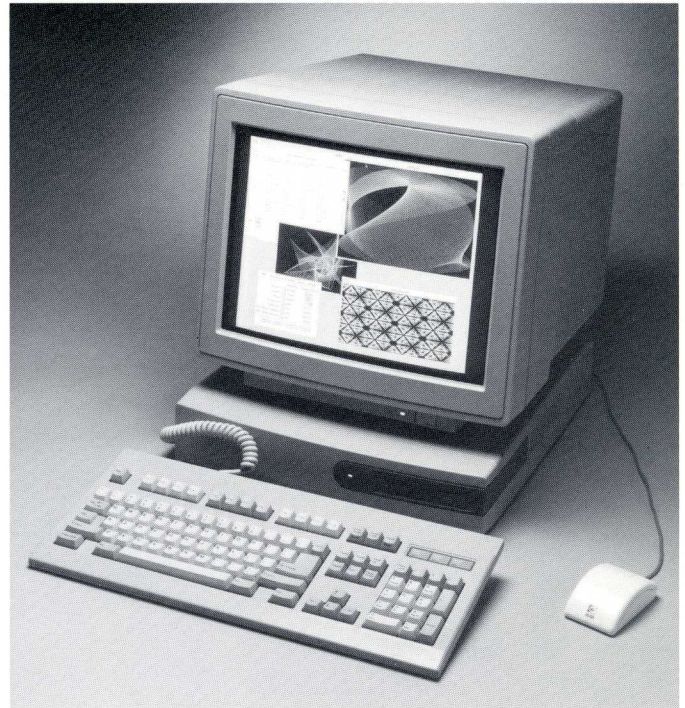
## Product Description

The i860 Station is a highly integrated UNIX workstation based on the Intel i860 64-bit 40 MHz RISC CPU. Featuring high resolution graphics and a complete set of compilers, development tools and libraries, the i860 Station provides OEMs with a complete software development and design evaluation environment.

The i860 Station provides an excellent vehicle for evaluation and design verification of i860 microprocessor-based products. Designers of i860 microprocessor-based products can realize significantly reduced time-to-market and development costs.

In addition to certified UNIX/860 System V Release 4.0, the i860 Station includes C and FORTRAN compilers. AT&T's C compiler features global optimization, software pipelining and internal vectorization. The FORTRAN compiler includes a Green Hills ANSI F77, a Pacific Sierra Research vectorizer, and a vector library. Both compilers enable developers to take advantage of the parallel architecture of the i860 microprocessor.

Networking capability enables several users to tie their machines to the i860 Station and then remotely compile and debug their code.

## System specifications

### Processor
—40 MHz i860 RISC microprocessor

—Floating point, memory management on chip

—4 KB instruction cache, 8 KB data cache on chip

—3D rendering unit on chip

### Main Memory
| | |
|---|---|
| —Standard | 16 MB, 60 ns cycle time |

### Graphics
| | |
|---|---|
| —Resolution | 1280 x 1024, 16 bits per pixel |
| —Color | 64,000 colors from a 16 million palette |
| —Frame buffer | 4 MB single buffer |
| —Monitor | 16" color monitor |

### Internal Storage
| | |
|---|---|
| —Floppy drive | 3.5 inch, 1.44 MB |
| —Hard drive | |
| Format | 3.5 inch disk |
| Capacity | 200 MB |

### External Mass Storage
| | |
|---|---|
| —Tape drive | |
| Format | 0.25 inch streaming tape |
| Capacity | 150 MB |

### Ethernet Interface
| | |
|---|---|
| —Media type | Coaxial cable |
| —Data rate | 10 Mb/s |
| —Connector | 15 pin |

### SCSI Interface
| | |
|---|---|
| —Connector | SCSI-1 |

### Serial I/O
| | |
|---|---|
| —I/O ports | Two serial ports (one for mouse, one unused) |

### Parallel I/O
| | |
|---|---|
| —I/O Port | One parallel port |

| | |
|---|---|
| **Keyboard** | 101 key, standard AT-style keyboard |
| **Mouse** | 3 button, mechanical |

## Software specifications

### Operating System
| | |
|---|---|
| —UNIX | UNIX 860 System V Release 4.0 |
| —X Window | X 11 release 4 |
| —GUI | OPEN LOOK |
| —Debugger | Standard UNIX debugger |

### Compilers
| | |
|---|---|
| —C | AT&T C compiler |
| | Global optimizer |
| | Software pipelining |
| | Internal vectorizer |
| | Math library |
| —FORTRAN | Green Hills ANSI F77 |
| | PSR Vectorizer |
| | Vector library |

| | |
|---|---|
| **Communications** | Ethernet, NFS, TCP/IP |

### i860 Station Documentation
—UNIX System V/860 Release 4 Manual Set

—i860 FORTRAN Manual Set

—Getting Started with the i860 Station

### Related Documentation
—33 MHz i860 Platform Reference Design Guide (order # REF860A)

—i860 64-bit Microprocessor Hardware Reference Manual (order # 240330)

—i860 64-bit Microprocessor Programmer's Reference Manual  (order # 240329)