

Alacron offers two families of processor boards based on Intel's i860 RISC processors: the AL-860 and FT-200. These boards are ideal for accelerating digital signal processing (DSP), graphics, and imaging processing applications.

Features

Features common to all Alacron i860-based boards include:

- Single i860 XR
- Up to 200 MFLOPs / 100 MIPS
- Up to 256 MB Addressable Memory
- FastTrack® connection to I/O and processor daughter-cards
- Real-time OS
- DOS, Windows, Unix interfaces
- Available for: PCI computers

The AL-860 is a single-processor i860 XR-based board-level subsystem, available for PCI bus computers. Using a single 40 MHz i860 XR, the AL-860 executes a 1k complex FFT in 720 microseconds. The AL-860's addressable memory is expandable from 2 MB to 256 MB.

The AL-860 subsystem provides two FastTrack expansion connectors. These connectors implement Alacron's stackable daughter-card protocol, and together can support a combination of up to six I/O and processor daughter-cards.

Software Libraries

Alacron's AL-860 computing subsystem is supported by an extensive suite of application specific libraries for image processing, DSP and graphics applications.

- ◆ Vector Numerical Library
- ◆ Real-time Image Processing Library

Processing Environments

Alacron's RT operating environment provides several processing models. Applications can run as simple attached processes on the AL-860 processor boards, as stand alone tasks on the host, or as separate tasks on the host and on the AL-860.

Alacron's RT supports Microsoft DOS, Windows 3.1, Windows NT, Windows 95/98, Solaris, LynxOS, and VxWorks.

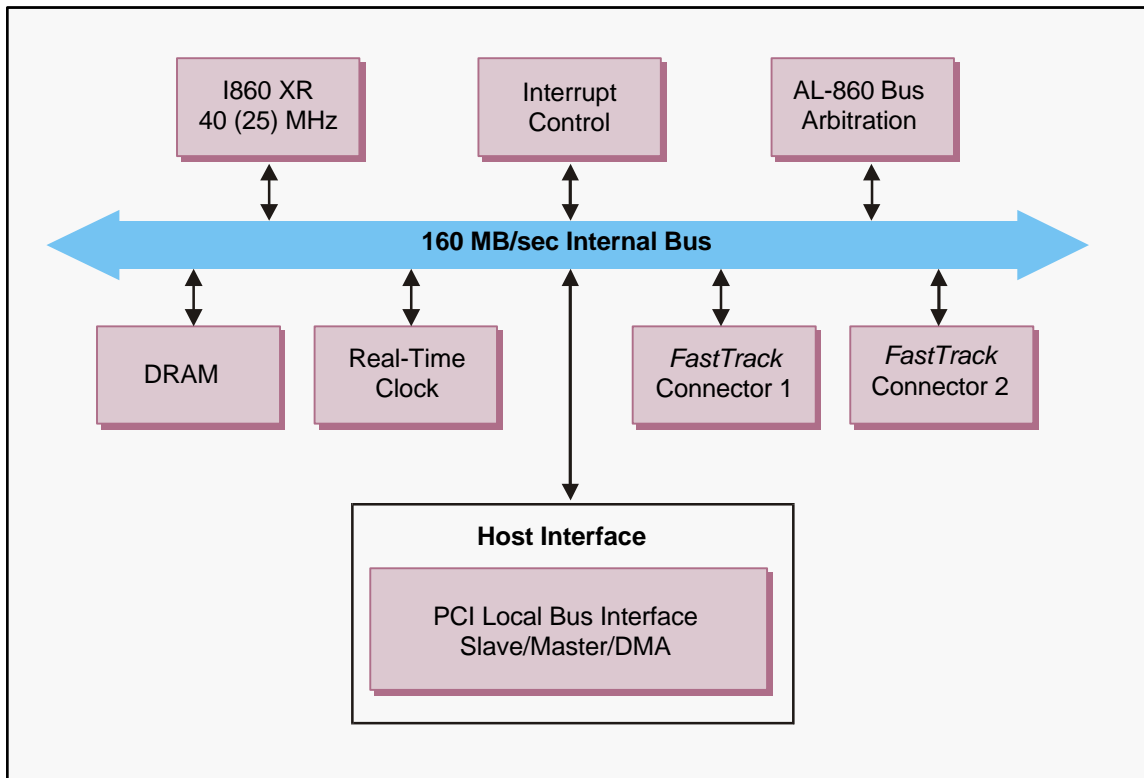
Development Tools

A full suite of ANSI development tools for C and FORTRAN is available. Compilers support general purpose and numerically intensive applications. Profilers and debuggers are available.

FastTrack Interface

The AL-860 board's two 160 MB/sec FastTrack connectors provide tremendous I/O and expansion flexibility. These connectors implement Alacron's stackable daughter protocol and together can support a combination of up to six I/O and processor daughter-cards.

AI-860 Architecture



Specifications

AI-860 Processor Board

Processor..... Intel i860XR
 Clock Speed..... 25 or 40 MHz
 Memory..... 2 MB to 256 MB
 External I/O 160 MB/sec (1)

Intel i860 CPU

Precision IEEE (754) floating point
 Single (32-bit) precision
 Double (64-bit) precision
 Performance..... 80 MFLOPS, 40 MIPS @
 40 MHz
 3D unit..... Z buffering, Pixel
 interpolation, 3D shading
 MMU..... 4k page sizes
 Data bus..... 128-bit internal
 64-bit external
 Cache..... 8K data, 4K Instruction

AI-860 Peak Performance

MFLOPS..... 80 MFLOPS
 MIPS..... 40 MIPS
 1K complex FFT <720 mSec
 2D real FFT 0.330 Sec 512x512
 3x3 convolution..... 66.1 mSec

Notes: (1) burst rate transfers using AL-860-DI daughter-card

PCI Interface

Bus specification 8, 16, 32 Bit PCI Format
 Control registers I/O Mapped
 Global memory..... Memory Mapped
 PCI/global 132 MB/sec burst memory
 PCI/global 70 MB/sec sustained
 PCI/global 16 MB/sec random

PCI Electrical and Environmental

Power..... +5 volts at 5A

Dimensions 12.7 x 35.6 x 1.9 cm
 Operating temp. 0-50 degrees centigrade
 Relative 95% noncondensing
 humidity

FT-I/O Expansion Boards

Alacron provides a family of I/O expansion boards for the AL-860 family. FastTrack interfaces. Software drivers are available for all expansion boards:

- FT-DI: Digital Input/Framegrabber
- FT-DIO: Digital I/O Module
- FT-DT/4: Programmed I/O Interface Module
- FT-DT/IN: DT DMA Input Interface Module
- FT-SCSI: SCSI Bus Interface
- FT-VB: VISIONbus Interface
- FT-VDA: Video Display Adapter