

ASP-C2

SHARC PMC with 8/12Mbytes DRAM



- ADSP-2106x DSP
- 130Mbyte/sec PCI I/F
- Master/Slave interface
- 16x 40Mbyte/sec link ports
- 8/12Mbytes DRAM
- 512kbytes FLASH
- VxWorks utilities
- PMC format

Overview

The ASP-C2 is a PMC format card with an Analog Devices ADSP-2106x SHARC DSP, 12Mbytes of DRAM, 6x 40Mbyte/sec link ports and 130Mbyte/sec PCI interface.

The ASP-C2 is well suited to heterogeneous applications which require the combined benefits of floating-point DSP and general purpose processors such as radar, sonar, and communications.

Through a PMC slot, the ASP-C2 can be fitted to a wide range of VME cards including boards based on PowerPC, Pentium and SPARC.

DRAM

Complementing the SRAM, the ASP-C2 has 8 (ADSP-21062) or 12Mbytes (21060) of fast page mode DRAM for bulk storage needs.

FLASH

The ASP-C2 has 512kbytes of FLASH memory. The FLASH can be used to store parameters unique to an installation or data logging.

The FLASH memory can also be used to boot the ASP-P14 in embedded applications.

Link Port Connectors

The ASP-C2 has 6 external 40Mbyte/sec link port connector mounted on the front panel. Direct connection through the six 40Mbyte/sec link ports provides a native path to arrays of SHARCs fitted to other VME, PCI, ISA and PMC boards - this ensures simple system integration and scalability.

PCI Interface

For the highest levels of PCI throughput, the ASP-C2 provides a data streaming FIFO based PCI interface which can sustain data transfer rates very close to the theoretical limit of 132Mbytes/sec. This is complemented by a hardware data type conversion system to assist the exchange of data between the byte-oriented PCI and word oriented SHARC environments. These features means that data can be efficiently moved between the host and SHARC with very little host CPU overhead.

EZ-ICE Compatibility

ASP-C2 incorporates a removable EZ-ICE header to provide in-circuit emulation via JTAG. To use this, an EZ-ICE probe and PC add-in card is required. This provides the basis for a complete development and debug environment. Using EZ-ICE allows C-source level debugging within a GUI interface and complete control over loading, execution and inspection of program variables.

An alternative to the Analog Devices' EZ-ICE probe/ISA card combination is White Mountain DSP's Mountain-ICE - available directly from Transtech.

Serial Port (SPORT)

The ASP-C2 provides external connection to both SPORT channels routed through to the PMC's user I/O connector.

Software Support

Software support includes Transtech's ASP Toolset and a wide range of 3rd

party products such as Virtuoso™. Host operating system support includes Windows 95, Windows NT and VxWorks.

VxWorks support allows native SHARC applications to be booted via host boards running VxWorks on non-SHARC DSPs. An example host is a Motorola MVME2603.

ASP-Toolset

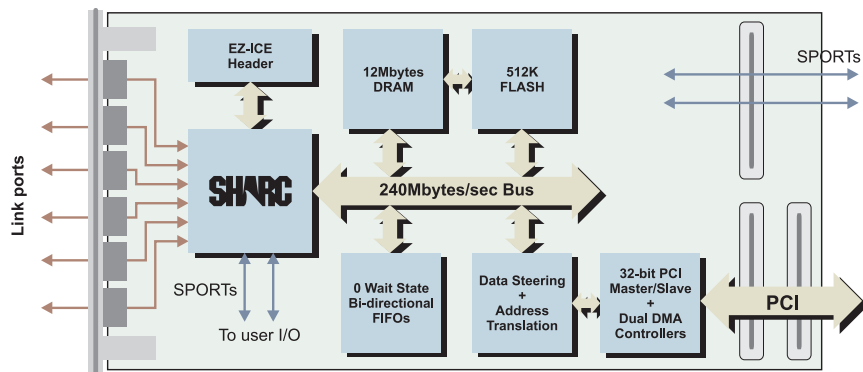
The Analog Device toolset for developing SHARC applications provides the foundation to the ASP-Toolset. This includes an assembler, C-compiler, linker, librarian, simulator and debugger for PC or Sun hosts.

By extending these tools, the ASP-Toolset adds essential network utilities and host I/O server support allowing processors access to off-board resources. This combination allows sophisticated SHARC code development at low cost.



www.transtech-dsp.com

Block Diagram



Technical Specification

Processor

Type	ADSP-21062 or ADSP-21060
Number	1
Clock speed	40MHz

Memory

DRAM	2Mx32 (21062) 2Mx48bit (21060)
FLASH	512Kx8bit

External Links Ports

Number	6 (front panel)
Bandwidth	40Mbytes/sec per link
Connector	AMP 1-104074-0

PCI Interface

Compliance	PCI 2.1 master/slave
DMA	yes - 130Mbytes/sec

Debug

EZ-ICE or Mountain-ICE port - detachable

SPORT

2 channels routing to PMC user I/O connector

Power Requirement

Typical 7.5W (12Mbytes)

Physical Dimensions

Length PMC

Software Support

ASP Toolset, Virtuoso, 21K DSP libraries, Mountain-ICE and EZ-ICE
Contact Transtech for further details of software support

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