

CLARITY 4 Series ASICs

- Fast Time to Market
- Proven Design Flexibility
- Programmability

ASIC Platforms for OEMs

Sound Vision's CLARITY 4 family of programmable ASICs are designed to meet a variety of demanding imaging and audio requirements. CLARITY 4 leverages the industry-defining architecture of CLARITY 2. This dramatically reduces the risk of missing market opportunities and provides the benefit of a 50% performance improvement. It is available in two versions:

Entry-Level CLARITY 4.1

CLARITY 4.1 is the most cost-effective solution for the entry-level market. As a subset of Clarity 4.2, this version is ideal for designs without a color LCD or products requiring a reduced number of GPIOs and address lines.

Full-Featured CLARITY 4.2

CLARITY 4.2 offers improved flexibility in the user interface design, a color LCD display interface that supports many vendors, and a full set of GPIOs address lines. CLARITY 4.2 is the most effective solution for feature-rich digital cameras.



Programmability

As a programmable device, CLARITY 4 achieves significant flexibility with an embedded ARM 720T RISC processor. This allows CLARITY 4 to be used in a wide array of product categories when combined with different firmware releases. CLARITY 4-enabled products include digital cameras, handheld audio devices, karaoke players, toys and many other applications.

Design Flexibility

CLARITY 4 incorporates an extensive set of integrated peripherals. These include a generic sensor interface, color LCD interface, NTSC/PAL encoder, interface to sync DRAM, Flash memory, Compact Flash, Smart Media, USB, UART, and an audio codec interface.

Fast Time-To-Market

CLARITY 4 enables OEMs to bring highly differentiated products to market faster through an extensive base of firmware and existing product designs that can be quickly adjusted to meet new market requirements.

CLARITY Common Specifications*

.25 micron, 3 layer metal technology	I ² C Bus for external control
72 MHz, 150 mA Max Idd current	Video capture with integrated audio support
Core operating @ 2.5V, I/O @ 3.3V	NTSC/PAL video encoder
Image acquisition interface for CCD and CMOS sensors up to 8 MP in resolution.	Direct interface for both CompactFlash and SSFDC (SmartMedia)
32 bit ARM 720 RISC CPU	USB and UART capabilities
Supports up to 64MB SDRAM	Audio Codec I/F

*Specifications are subject to change.

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Sound Vision offers a complete line of reference designs based on our CLARITY brand ASICs for cost-effective and fast turnaround production of a wide range of digital imaging and audio products. Sound Vision's unified architecture and production-ready designs reduce development costs while accelerating product release schedules. OEMs can easily add housing and tailor the product line with minimal cost, effort, or training.

CLARITY Specifications*

	CLARITY 4.1	CLARITY 4.2
Packaging	160-pin PQFP	208-pin PQFP
NVRAM	Up to 2 MB	Up to 8 MB
Sensor data bits	Up to 10 or 12 bits A/D alternatives	
General purpose I/O pins	24	46
Color LCD display support	No	Seiko Epson, Unipac, Kopin and others

*Specifications are subject to change.

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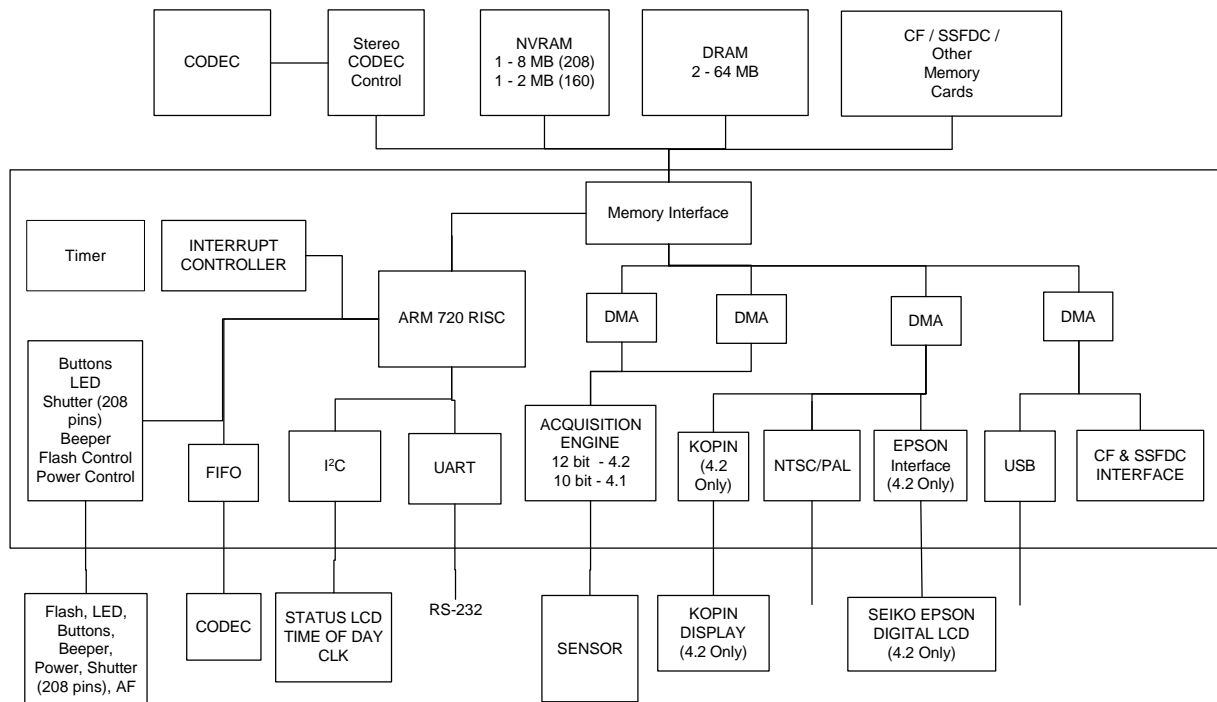
CLARITY Capabilities*

Still image acquisition and processing	Audio capture and playback
Video capture and playback	MP3 decoding and playback
Video capture to PC over USB	Voice recognition
Portable and TV-based display	MAME Game emulation
TCP/IP and email connectivity	MIDI decoding and playback

*Included capabilities vary by standard design

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CLARITY 4 Series Block Diagram



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