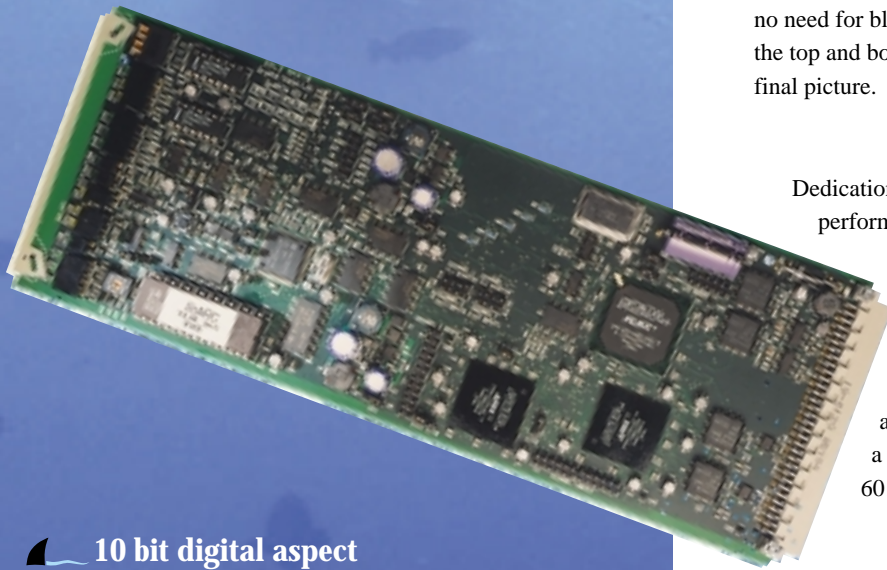


# Crystal Vision

## ShARC

### Aspect Ratio Converter

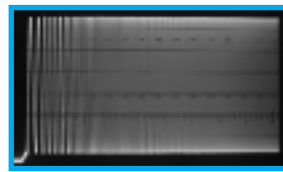


- 10 bit digital aspect ratio converter
- Single and dual versions: ShARC102 and ShARC204
- Fixed mode: converts 16:9 to 4:3
- Exceptional quality
- Wide and flat frequency response
- Minimal delay (8 microseconds)
- Convert and bypass modes
- Selectable EDH generation
- Passes embedded audio with same delay as picture
- ShARC204 gives 24 channels in 2U
- Remote control of all functions

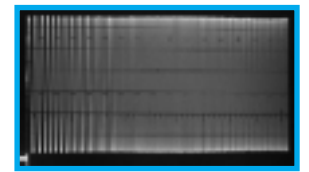
ShARC: a fixed mode aspect ratio converter optimised for a single conversion, thereby giving an output picture of exceptional quality. ShARC will convert your 16:9 video signal to 4:3 by horizontally stretching the central 75% of the input picture, with no vertical processing involved and no need for black bands at the top and bottom of the final picture.



Dedication to this one conversion combined with high performance digital filtering allow the best possible output to be obtained through optimised picture processing. Add to this the absence of vertical processing which means there is no degradation in vertical performance. ShARC has a wide and flat frequency response, with very low levels of measurable conversion artefacts such as aliasing, banding and ripples. Below is the result from a Waveform Parade performed by a Tektronix Waveform 601, clearly demonstrating this flat frequency response.



*Luminance before conversion*



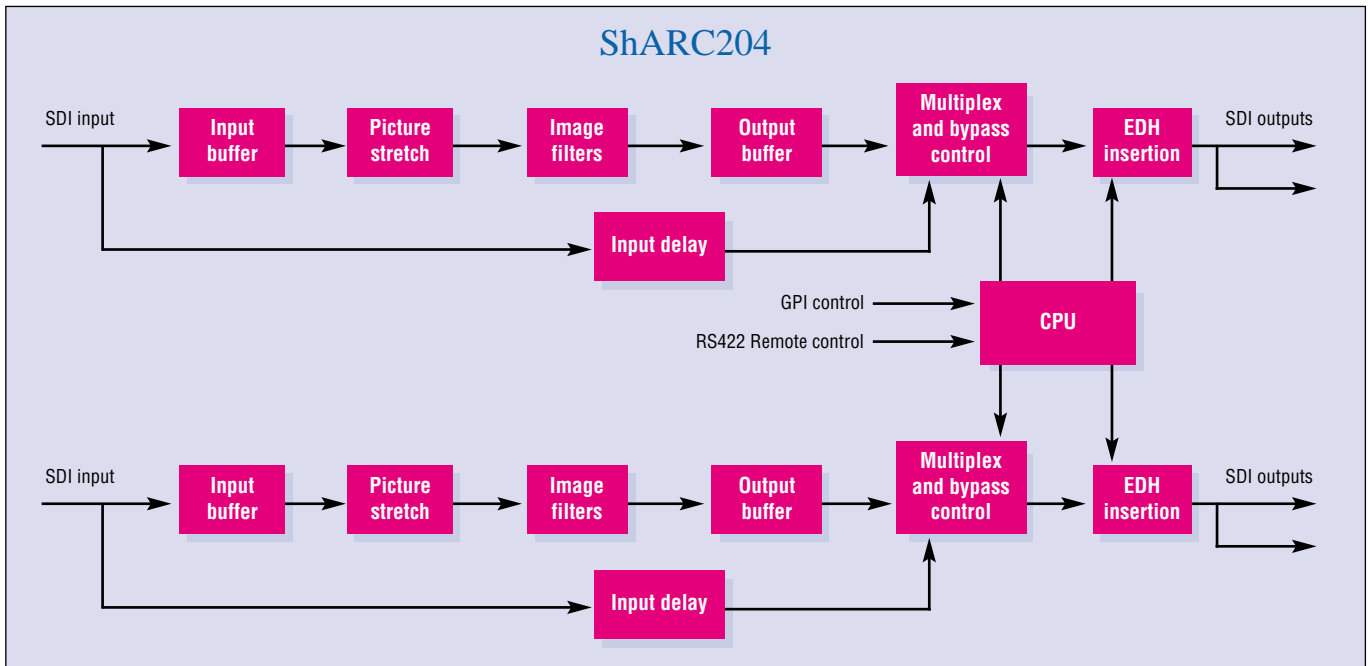
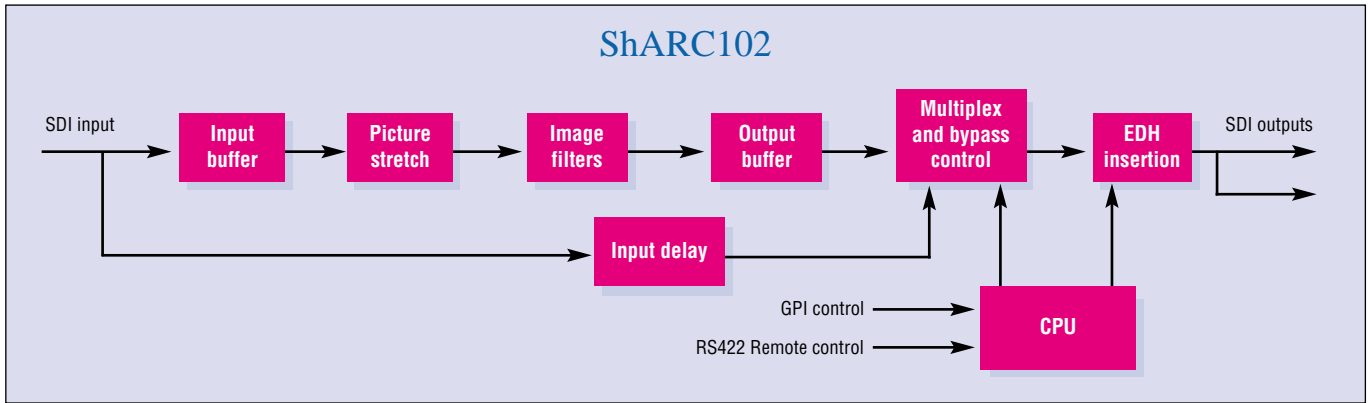
*Luminance after conversion*

While many other aspect ratio converters experience a propagation delay of up to a frame, ShARC - largely due to the absence of vertical processing - has a delay of only eight microseconds.

There are two operation modes - convert and bypass - with the latter used to delay unconverted video by the same amount as converted video so no timing changes occur when switching. Unlike many other aspect ratio converters, ShARC will pass embedded audio and auxiliary data with the appropriate compensating delay, preserving lip sync or audio-video timing without the need for additional equipment. EDH generation can be switched on or off.

ShARC is available in two versions, both competitively priced. The single ShARC102 has one input and two outputs, while the dual ShARC204 - with its two inputs and two outputs of each channel - gives 24 channels in 2U and is therefore particularly ideal for limited space applications.

ShARC is extremely quick and easy to set up and use. It offers flexible control options, with board edge and GPI control of convert and bypass modes for each channel, and active front and remote panel control of all functions.



## S P E C I F I C A T I O N

#### MECHANICAL

Standard Crystal Vision module 266mm x 100mm  
 Weight: 230g  
 Power consumption: 8 Watts (ShARC102); 8.4 Watts (ShARC204)

#### VIDEO SDI INPUT

SDI 270Mbit to EBU 3267-E & SMPTE 259M  
 Cable equalisation >200m Belden 8281 or equivalent  
 Auto 625/525 line selection  
 May contain embedded audio or data (10 bit data path)

#### OUTPUT

2 outputs (ShARC102) or 4 outputs (ShARC204) SDI  
 270Mbit to EBU 3267-E & SMPTE 259M with EDH  
 10 bit picture with 10 bit embedded audio and data path  
 8 microseconds delay

#### PICTURE PROCESSING

Processing is 10 bit with 10 bit data path in horizontal and vertical blanking interval to allow embedded audio or data

#### FREQUENCY RESPONSE

Passband ripple 0.1dB to 5.5MHz (4.25MHz after conversion)

#### GPI INPUT LEVELS

Active: connect to ground  
 Inactive: high impedance, or 5 volts  
 Input current <50uA

#### GPI INPUTS

Convert or bypass per channel

#### LED INDICATION OF:

Power supplies on board  
 SDI input present  
 625/525 input standard  
 Selected conversion

#### LOCAL CONTROL

Conversion set by DIP switches

#### REMOTE CONTROL

RS422/485  
 19200 baud 8 bits, 1 stop no parity  
 2 serial ports - 1 connected to frame front panel, 1 can be linked to rear of frame instead of GPI signals  
 Front panel control from frame active panel and remote panel

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### ORDERING INFORMATION

|           |   |
|-----------|---|
| ShARC102  | Single 10 bit SDI Aspect Ratio Converter  |
| ShARC204  | Dual 10 bit SDI Aspect Ratio Converter  |
| FRxxx     | Any Crystal Vision interface frame (some require rear modules)                      |
| RM01      | Single slot frame rear module giving access to all outputs on ShARC102 and ShARC204 |
| FP1-L/LAV | Active front panel for 1U frame. Allows control of all modules in frame             |
| FP2-LF    | Active front panel for 2U frame. Allows control of all modules in frame             |
| REM1U     | 1U remote control panel   |
| REM1US    | Narrow 1U remote panel  |