

Crystal Vision

ARC102 Aspect Ratio Converter

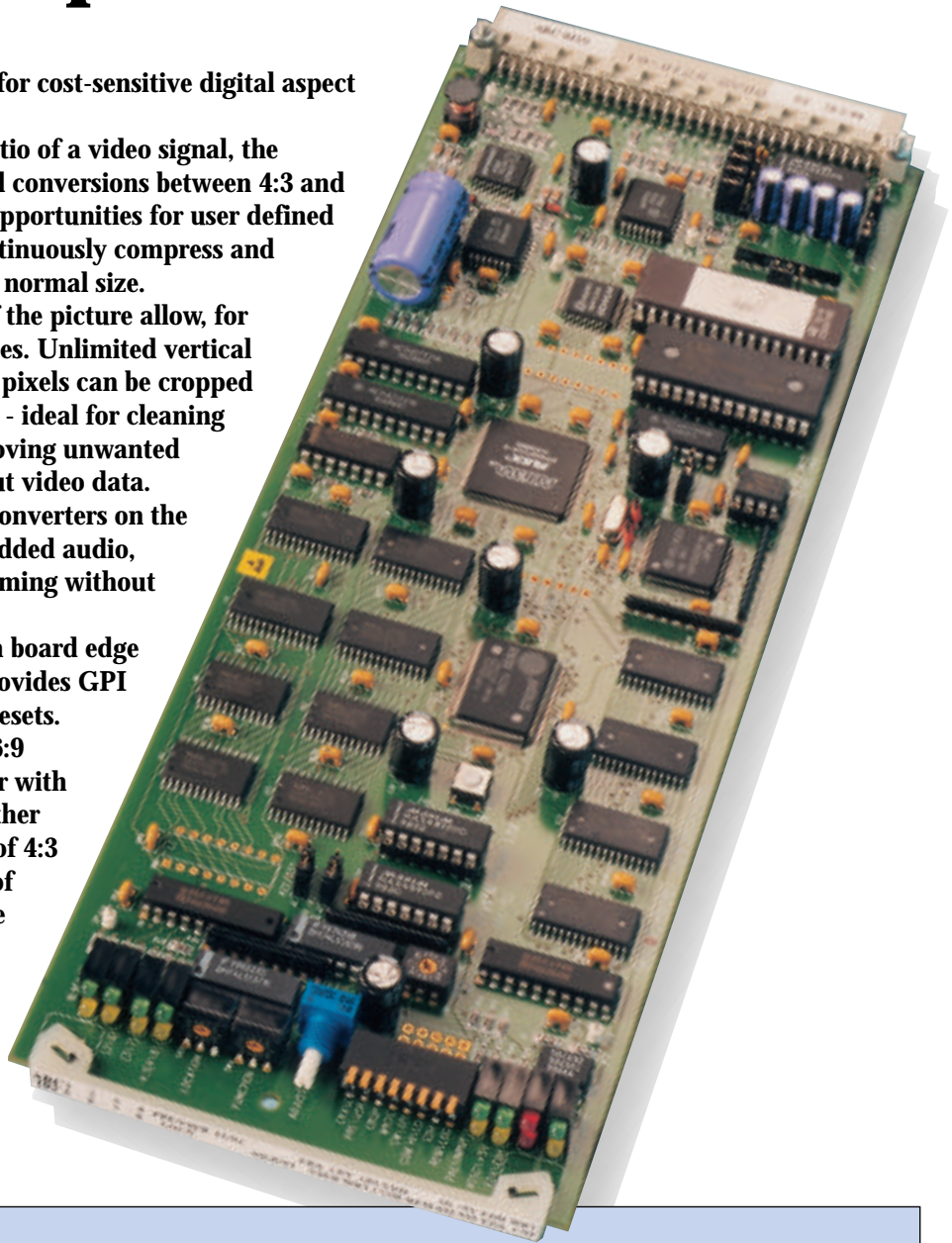
The fully-featured ARC102 is ideal for cost-sensitive digital aspect ratio conversion.

Designed to change the aspect ratio of a video signal, the ARC102 has six presets for standard conversions between 4:3 and 16:9 and offers an additional eight opportunities for user defined presets. It gives the flexibility to continuously compress and expand a picture from 50% to 200% normal size.

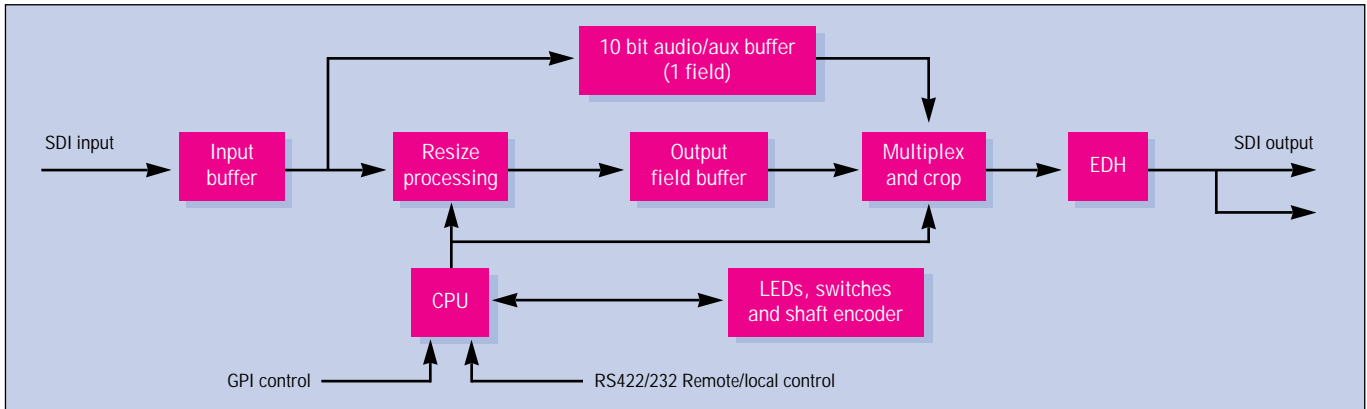
Horizontal and vertical offsets of the picture allow, for example, the easy addition of subtitles. Unlimited vertical and up to 255 horizontal luminance pixels can be cropped from either side of the output image - ideal for cleaning up the edges of the picture and removing unwanted material. EDH is added to the output video data.

Unlike many other aspect ratio converters on the market, the ARC102 will pass embedded audio, preserving lip sync or audio-video timing without the need for additional equipment.

The ARC102 is controllable from board edge or from local or remote panels. It provides GPI selection of both factory and user presets. Three of the factory presets allow 16:9 sources to be shown on a 4:3 monitor with the geometry preserved, while the other three allow similar easy conversion of 4:3 to 16:9. The presets give the choice of showing the whole picture with wide black edging, less picture with narrow black edging or even less picture with no black edging.



- ▶ 8 bit digital aspect ratio converter
- ▶ 100mm x 266mm module allows 12 ARC102 in 2U
- ▶ 6 factory presets
- ▶ Memory locations for 8 user defined presets
- ▶ Continuous horizontal and vertical compression and expansion
- ▶ Horizontal and vertical offsets of picture
- ▶ Vertical and horizontal cropping
- ▶ EDH generation
- ▶ GPI selection of presets
- ▶ Passes 10 bit embedded audio or data with same delay as picture
- ▶ Remote control of all functions



FACTORY PRESETS



16:9 Letterbox

- ▶ Full 16:9 source width mapped to 4:3 monitor width
 - ▶ Full source height compressed to 75% of monitor height
- ▶ Horizontal black bands added to top and bottom
 - ▶ No picture lost



14:9 Letterbox

- ▶ Central 87.5% of 16:9 source width stretched to 4:3 monitor width
 - ▶ Full source height compressed to 87.5% of monitor height
- ▶ Horizontal black bands added to top and bottom
 - ▶ Minimal picture lost



16:9 Full Screen

- ▶ Central 75% of 16:9 source width stretched to 4:3 monitor width
 - ▶ Full source height mapped to monitor height
- ▶ No horizontal black bands required
 - ▶ Significant picture lost



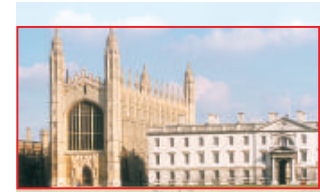
4:3 Pillarbox

- ▶ Full 4:3 source width compressed to central 75% of 16:9 monitor width
 - ▶ Full source height mapped to monitor height
- ▶ Vertical black bands added to left and right
 - ▶ No picture lost



14:9 Pillarbox

- ▶ Full 4:3 source width compressed to central 87.5% of 16:9 monitor width
 - ▶ Central 87.5% of source height stretched to monitor height
- ▶ Vertical black bands added to left and right
 - ▶ Minimal picture lost



4:3 Full Screen

- ▶ Full 4:3 source width mapped to 16:9 monitor width
 - ▶ Central 75% of source height stretched to monitor height
- ▶ No vertical black bands required
 - ▶ Significant picture lost

SPECIFICATION

MECHANICAL

Standard Crystal Vision module 266mm x 100mm
Weight: 200g
Power consumption: 8.3 watts

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 SDI 270Mbit to EBU 3267-E & SMPTE 259M with EDH
8 bit picture with 10 bit embedded audio and data path
1 field delay

PICTURE PROCESSING

Processing is 8 bit with 10 bit data path in horizontal and vertical blanking interval to allow embedded audio or data
Horizontal and vertical picture size adjust from 50% to 200%
Horizontal and vertical picture offset by pixels and lines
Factory presets for the 6 standard setups to put a 16:9 source on a 4:3 monitor, or a 4:3 source on a 16:9 monitor (see above for exact preset sizes)

GPI INPUT LEVELS

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

GPI INPUTS

BCD selection of factory or user presets

LED INDICATION OF:

Power supplies on board
SDI input present
Input EDH errors
625/525 input standard
Selected conversion preset

LOCAL CONTROL

Variables and options set by hex and DIP switches

REMOTE CONTROL

RS422/485 and RS232
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

ARC102	SDI Aspect Ratio Converter
FRxxx	Any Crystal Vision interface frame (some require rear modules)
FP2-LF	Active control panel for 2U frame
FP1-L	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. Can be used instead of active front panel on frames. 65mm deep control panel can operate up to 32 modules
REM1US	Narrow 1U remote panel