

Crystal Vision

ARC102 Aspect Ratio Converter

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

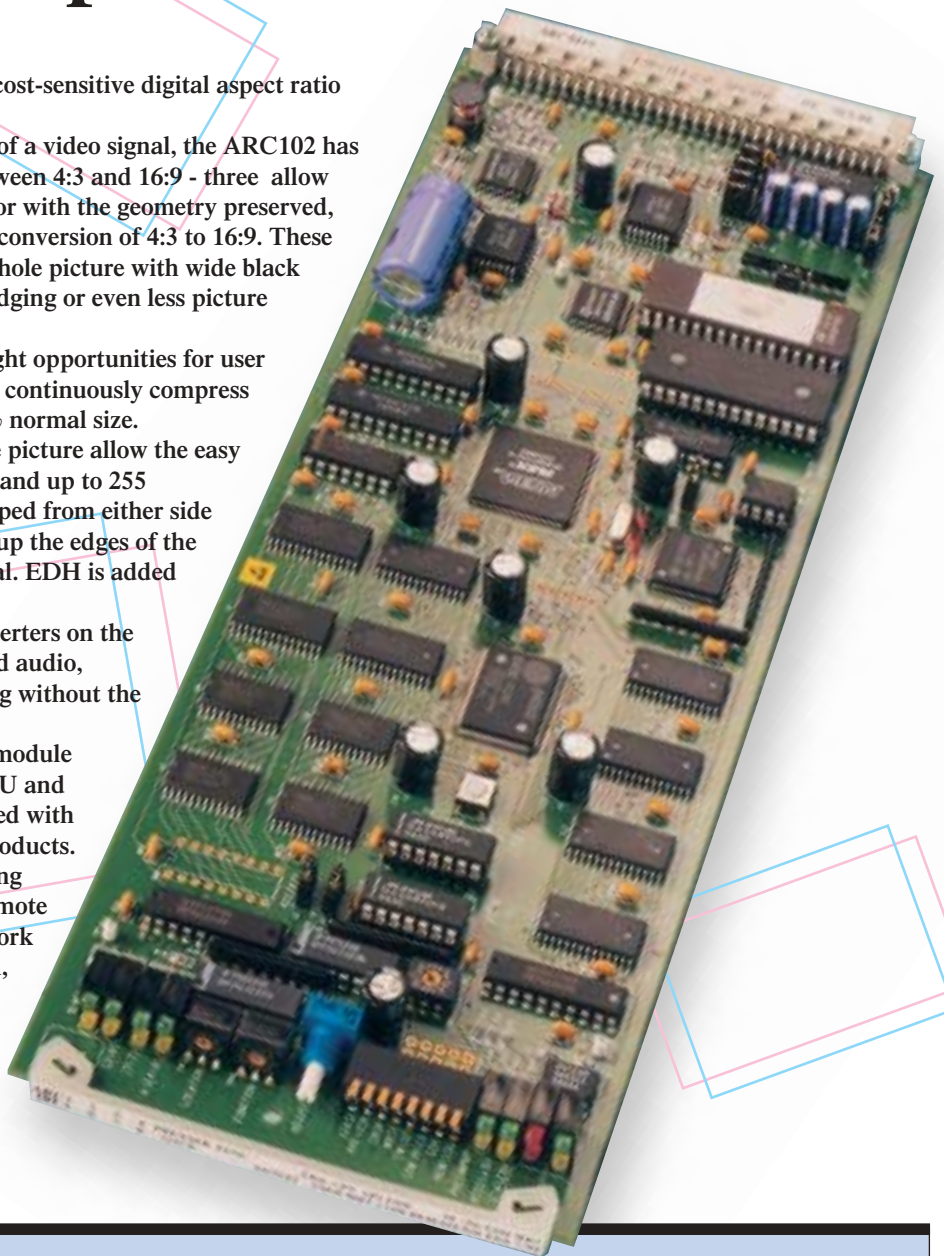
Designed to change the aspect ratio of a video signal, the ARC102 has six presets for standard conversions between 4:3 and 16:9 - three allow 16:9 sources to be shown on a 4:3 monitor with the geometry preserved, while the other three allow similar easy conversion of 4:3 to 16:9. These presets give the choice of showing the whole picture with wide black edging, less picture with narrow black edging or even less picture with no black edging.

The ARC102 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.

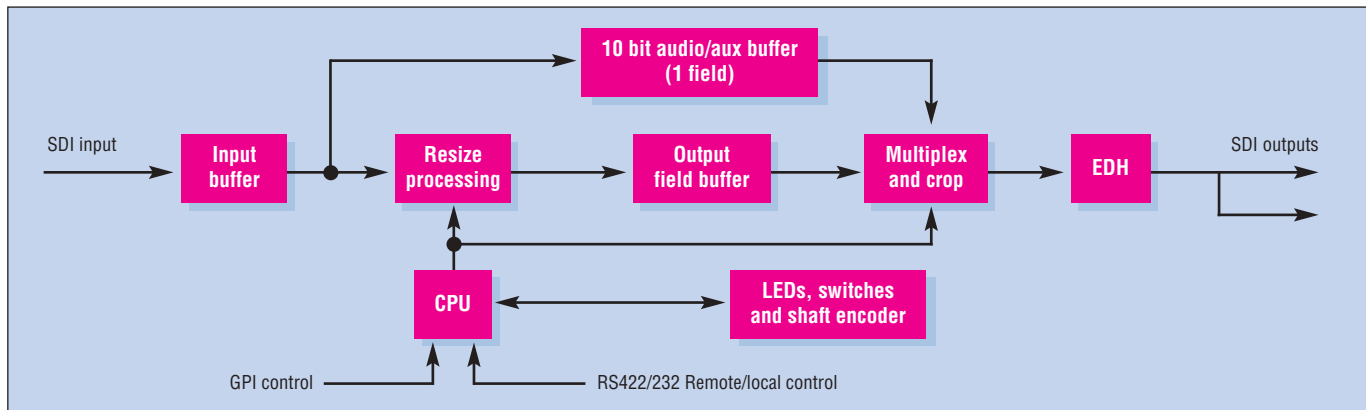
Horizontal and vertical offsets of the picture allow the easy addition of subtitles. Unlimited vertical and up to 255 horizontal luminance pixels can be cropped from either side of the output image - ideal for cleaning up the edges of the picture and removing unwanted material. EDH is added to the output 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 a 100mm x 266mm module which fits in the standard frames (2U, 1U and desk top box) and can be easily integrated with the full range of interface and keying products. It offers flexible control options, including board edge, frame active front panel, remote control panel or from any PC on a network using the Statesman PC Control System, and additionally provides GPI selection of both factory and user presets. Two SDI outputs are available using the RM01 frame rear module.



- ▶ 8 bit digital aspect ratio converter
- ▶ Space-saving: 100mm x 266mm module allows 12 ARC102s in 2U
- ▶ Six factory presets
- ▶ Memory locations for eight 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

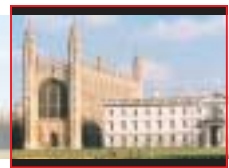


FACTORY PRESETS



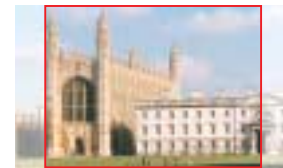
16:9 Letterbox

- 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)

OUTPUTS

Two outputs 270Mbit to EBU 3267-E & SMPTE 259M with EDH using RM01 frame rear module
8 bit picture with 10 bit ancillary 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 six standard setups to put a 16:9 source on a 4:3 monitor, or a 4:3 source on a 16:9 monitor

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

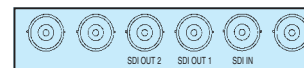
625/525 input standard
Selected conversion preset

LOCAL CONTROL

Variables and options set by hex and DIP switches

REMOTE CONTROL

RS422/485
19200 baud, 8 bits, 1 stop no parity
Control from frame active front panel or remote panel
Statesman allows control from any PC on a network



RM01

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ORDERING INFORMATION

ARC102	8 bit digital aspect ratio converter
Indigo 2	2U frame with passive front panel for up to 12 Crystal Vision modules
Indigo 2A	2U frame with active front panel for up to 12 Crystal Vision modules
Indigo 2S	2U frame with passive front panel fitted with Statesman CPU for up to 12 Crystal Vision modules
Indigo 1	1U frame with passive front panel for up to six Crystal Vision modules
Indigo 1A	1U frame with active front panel for up to six Crystal Vision modules
Indigo 1S	1U frame with passive front panel fitted with Statesman CPU for up to six Crystal Vision modules
Indigo DT	Desk top box with passive front panel for up to two Crystal Vision modules
Indigo DTA	Desk top box with active front panel for up to two Crystal Vision modules
Indigo DTS	Desk top box with passive front panel fitted with Statesman CPU for up to two Crystal Vision modules
RM01	Single slot frame rear module. Allows maximum number of ARC102s in frame (12 in 2U, six in 1U, two in desk top box). Gives access to two SDI outputs
REMIND	19" remote control panel
Statesman	PC Control System