



The IQARC00 is a broadcast quality 10-bit bi-directional aspect ratio converter with serial digital input and outputs, plus additional serial digital monitoring outputs. A comprehensive selection of fixed up and down conversion modes are available with ultra smooth adjustment of picture position both horizontally and vertically. In addition to the preset values, horizontal zoom and active picture size can be smoothly adjusted over a 2:1 to 1:2 range.

# IQARC00

## Aspect Ratio Converter with Signalling

### Does this module suit your application?

- Aspect ratio conversion using vertical-temporal filtering
- 9 fixed up and down conversion modes
- Bi-directional ultra smooth variable aspect ratio between 2:1 and 1:2
- Ultra smooth dynamic pan and tilt
- Input and output blanking controls
- Line 23 WSS and Video Index signalling (reading and writing)
- On screen display of line 23 WSS, Video Index information and unit status
- SDI monitoring outputs
- Fixed 1 frame or minimum delay modes, for easy installation
- Transparent to horizontal and vertical interval data
- Background colour control
- Auto field freeze on input loss
- Y and C gain controls
- Y black adjustment
- Y and C clippers for minimum and maximum values
- Pattern generation
- Caption insertion
- 8 GPI inputs and 4 input/outputs for rapid control
- 16 user definable memories
- Un-interruptable valid output
- RollTrack audio delay tracking
- Automatic 625 and 525 operation
- EDH checking and insertion to SMPTE RP165
- RollCall remote control and monitoring

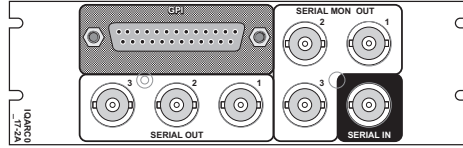
### Why should you choose this module?

- A proprietary vertical-temporal filter uses all picture lines to maximize the vertical resolution without motion artifact
- Features include; a comprehensive selection of fixed up and down conversion modes, ultra smooth adjustment of picture position both horizontally and vertically, and Line 23 WSS and Video Index signalling
- Fixed 1 frame or minimum delay modes, for easy installation
- RollCall remote control and monitoring
- Can control, using RollTrack, a tracking audio delay to ensure there are no lip-sync errors

**Order codes for IQH3A/1A enclosures**

**IQARC0017-2A**  
SDI Aspect Ratio Converter with Signalling. 3 SDI main / 3 SDI monitoring outputs.

For more details on enclosure types please refer to datasheet IQH3A.



IQARC0017-2A

**Technical Specification**

**Inputs and Outputs**

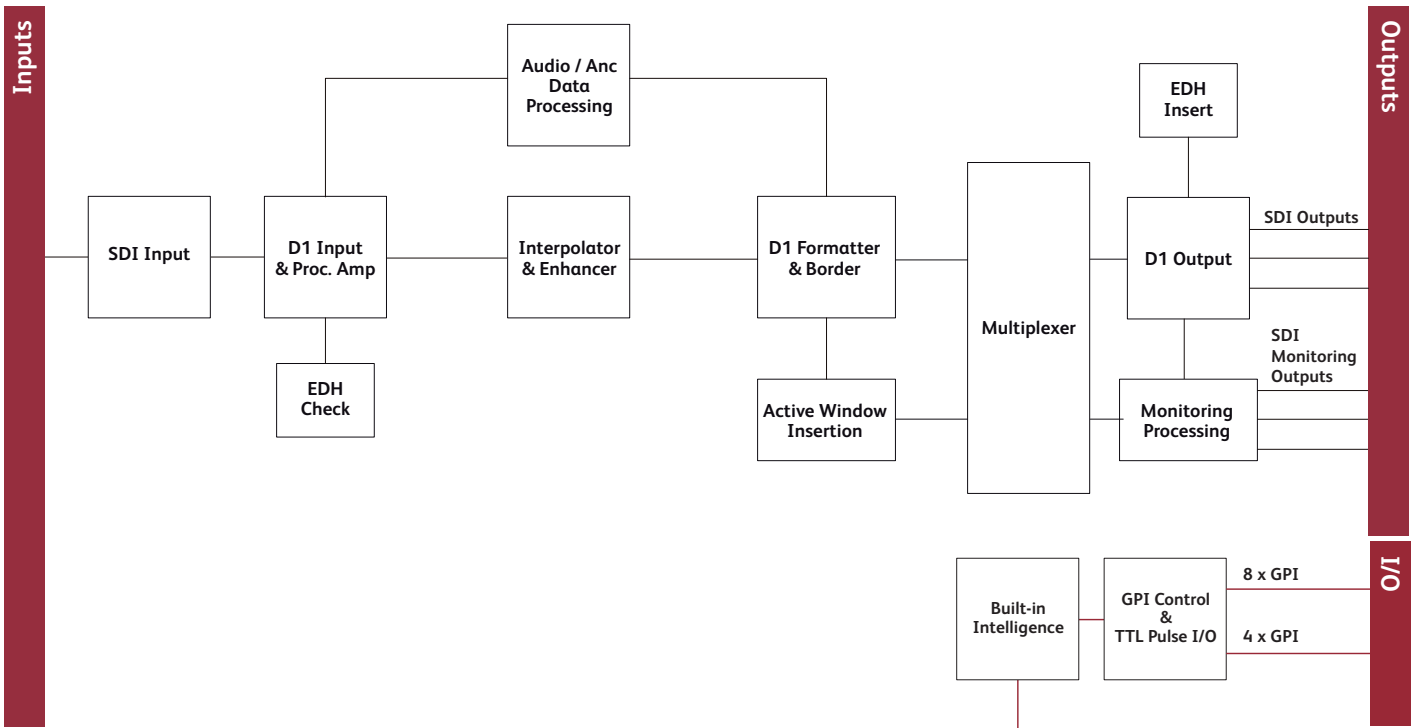
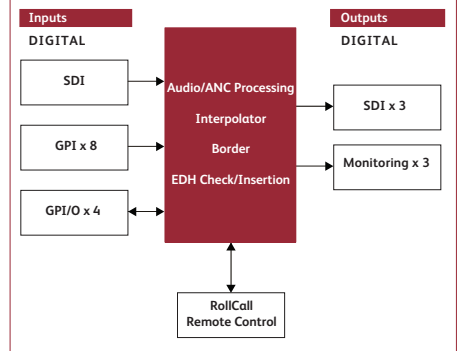
**Signal Inputs**

Serial digital Standards  
1 x SDI SMPTE 259M-C-1997 and embedded audio SMPTE 272M-A- 1994

**Signal Outputs**

Serial digital Standards  
3 x SDI  
3 x SDI Monitoring SMPTE 259M-C-1997 and embedded audio SMPTE 272M-A- 1994

IQARC00 SDI Aspect Ratio Converter with Signalling



Block Diagram for IQARC0017-2A

## Technical Specification cont...

### Card Edge and RollCall Controls

#### Control Interface

GPI	8 Closing Contact style 4 Closing Contact Inputs/ Outputs via 25 way D connector
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### Card Edge Controls (also available via RollCall)

#### Conversion Mode Select Terms

AA	Active image aspect ratio with reference to 9 (4:3 is 12:9 = 12)
B	Display Format P for pillar-box L for letter-box F for full-frame
CC	Raster aspect ratio with reference to 9 (4:3 is 12:9 = 12)

#### Conversion Mode Select

Input > output	Comment (output)
12F12 > 12P16	16:9 pillar-box
12F12 > 14P16	16:9 pillar-box vertically cropped
12F12 > 16F16	Full 16:9 picture
16L12 > 12F12	Side cropped
16L12 > 14L12	Side cropped 14:9 letterbox
16L12 > 16F16	Full 16:9 picture
16F16 > 12F12	Side cropped
16F16 > 14L12	Side cropped 14:9 letterbox
16F16 > 16L12	16:9 letter box
Aspect ratio	Smooth adjustment between 2:1 and 1:2
Size	Smooth adjustment between 2:1 and 1:2
Pan control	Smooth adjustment across input active picture
Tilt control	Smooth adjustment across input active picture
Input blanking	Smooth adjustment of top, bottom, left and right
Output blanking	Smooth adjustment of top, bottom, left and right
L23 and video index	Comprehensive control of Video Index & Line 23 including Automatic read, Automatic or Manual write, or removal
Y gain adjust	± 6 dB in 0.1 dB steps
C gain adjust	± 6 dB in 0.1 dB steps
Black level adjust	±100 mV in 0.8mV steps
Y min/max clipper value	- 50 mV to + 50 mV and 635 mV to 765 mV in 0.8 mV steps
C min/max clipper value	+ 200 mV to + 400 mV in 0.8 mV steps
Line 23, video index and unit status on screen display	Insert on Monitoring outputs (On/Off)
Auto freeze	Freeze on Input Loss (Default is Pattern Output) (On/Off)
Mode	Manual / Automatic response to incoming video index or wide screen signalling / Minimum Delay
Border control	Black, Blue, Red, Green, White, Grey or 2 user Defined R, G, B

Caption	Edit, On/Off, 1 or 10 line and where inserted (processed or unprocessed path)
Pattern select	Off, Black, EBU Bars, 100% Bars, Multiburst, Valid Ramp, Pulse and Bar, Green
Monitoring output	Output Input and monitoring information / Aspect ratio converted output
Ratio terminology	WRT-9, PB/LB, Ratio
User memories	16 recall locations
Standard	525 / 625 / Auto
Preset unit	Returns all settings to factory defaults

#### Functions Available via RollCall Only

Logging	EDH, Input Loss, Input Standard, Input and Output Video Index Signalling, Input and Output Wide Screen Signalling, Video Index and Wide Screen Signalling AFD conflict, Unit mode
User memories	16 save / recall
RollTrack	Video Delay, Input Present, Input Missing, Input Standard, Input and Output Video Index Signalling, Input and Output Wide Screen Signalling, Video Index and Wide Screen Signalling AFD conflict
GPI configuration	Select the function of each GPI input and output from a predefined list of options

#### Specifications

Serial input return loss	Better than 15 dB to 270 MHz
Maximum input cable length	>200 m (PSF1/2 or equiv. cable)
Serial output level	800 mV ±10%
Output overshoot	<700 mV
Output jitter	<0.2 UI
Delay	Normal: 1Frame plus approx. 2 µS or Min Delay: approx. 37 µS

#### Power Consumption

Module power consumption	13.5 W max
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