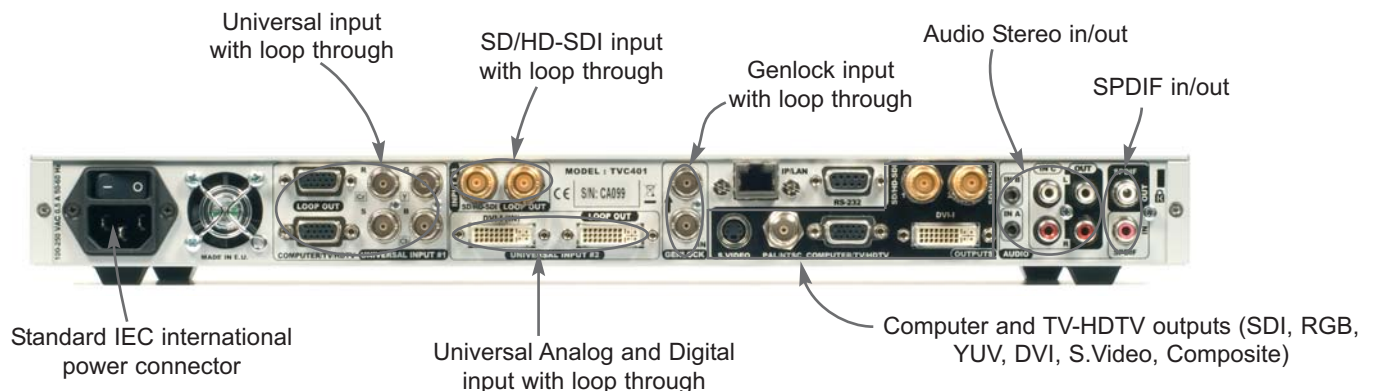
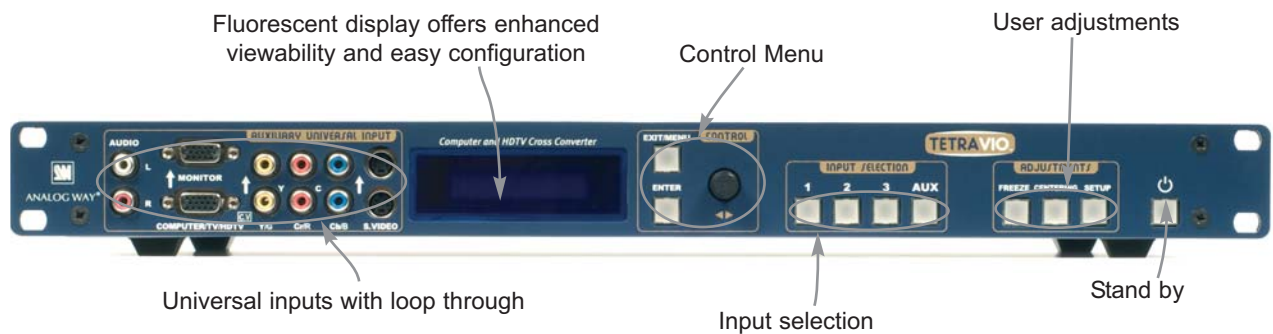
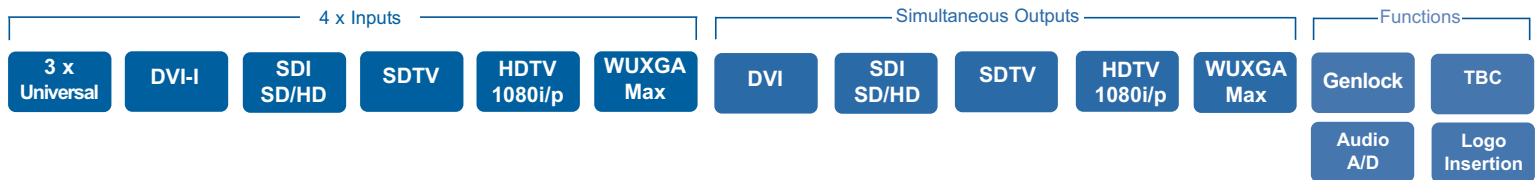


# Tetra-VIO™

The Universal A/V Computer and HD Solution in Image Cross Conversion with Digital Audio De/Embedder

Model: **TVC401**



## 4 A/V Inputs

- 3 Universal Inputs + 1 HD/SD-SDI
- Converts Virtually any High Resolution up to 2K, TV and HDTV Signals, Analog or Digital (Input/Output)
- Computer : RGB, DVI up to 1600x1200 & 2048x1080
- NTSC, PAL, SECAM, S.Video, RGB, YUV
- HDTV (HD-YUV, HD-RGB)
- SDI / HD-SDI
- Universal connector Interface
- Loop through on each input

## Stereo Audio

- 4 inputs with level Trim / 1 output
- Embedded Audio Digital & SPDIF

## Genlock

- Multi-format Genlock
- Black Burst PAL, NTSC
- Analog HD Black

## Universal Output

- Computer: RGB, DVI up to UXGA & 2K
- NTSC, PAL, Composite, S. Video, RGB, YUV
- HDTV (HD-YUV, HD-RGB)
- SDI, HD-SDI

## Effects

- Animated or still logo with settable transparency
- Recorded by acquisition or transfer



ANALOG WAY®

[www.analogway.com](http://www.analogway.com)

P/N: TVC401/C0308-VA

# Multi-Format Converters

## 4 AV INPUTS: 3 UNIVERSAL and 1 SD/HD-SDI

- **Input #1, 2 & Aux.**
  - **HD-YUV:** HD-YCrCb - 0.7Vp/p + Sync. 3 level 75 Ohms or YCrCb; RGsB, RGBS: 0.7Vp/p + Sync. 0.3V - 75 Ohms
  - **S.Video:** YC - 0.7Vp/p + Sync. 0.3V - 75 ohms
  - **NTSC/PAL:** Composite Video - 0.7Vp/p + Sync. 0.3V - 75 Ohms
  - **Computer:** RGBHV, RGBS and RGsB (PC, Mac, Wkst) (130kHz max)
  - **DVI** Digital Fpx MAX=165MHz TMDS 100 Ohms (input #2 only)
  - **Audio:** unbalanced stereo, 44kOhms/+18dBu max, adjustable level trim per input
  - **Digital Audio** SPDIF (fs 48kHz@20/24 bits)
- **Input #3**
  - **HD-SDI YUV 4:2:2** - 10 bits - 1.5 Gb/s - or SDI 270 Mb/s - 75 Ohms

## Output

- **HD-SDI YUV 4:2:2** - 10 bits - 1.5 Gb/s - or SDI 270 Mb/s - 75 Ohms with embedded audio (fs=48kHz@20/24 bit)
- **HD-YUV:** HD-YCrCb - 0.7Vp/p + Sync. 3 level - 75 Ohms or YCrCb; RGsB, RGBS: 0.7Vp/p + Sync. 0.3V - 75 Ohms
- **S.Video:** YC - 0.7Vp/p + Sync. 0.3V - 75 ohms
- **NTSC/PAL:** Composite Video - 0.7Vp/p + Sync. 0.3V - 75 Ohms
- **RGBHV, RGBS** RGsB (0.7Vp/p-75ohms + Sync TTL or Analog)
- **DVI:** Digital FpxMAX=165MHz TMDS 100 Ohms
- **Stereo audio analog:** Vo=+18dBu, Zo=300 Ohms - G= -∞ to +6dB Master Level
- **Digital Audio** SPDIF (fs 48kHz@20/24 bits)

## Genlock

- Black Burst Pal or NTSC: 1 Vp/p • Phase adjustments
- HD Black - 3 Level sync • Active loop through output

## User Control and Connectors

### FRONT PANEL

- Direct access to input selection, image freeze, auto centering, image processing
- Intuitive LCD display menu for easy set up
- Fluorescent display for enhanced viewability
- **Aux. Input Connectors:**
  - 2 x mini-DIN 4 for S.Video In and loop through
  - 6 x RCA for TV/TVHD In and loop through
  - 2 x HD15F for PC/TV/TVHD In and loop through
  - 2 x RCA for stereo audio in

### REAR PANEL

- **Input 1 Connectors:**
  - 1 x HD15 for Computer/TV/HDTV In
  - 4 x BNC for TV/HDTV In
  - 1 x HD15 for loop through
  - 2 x RCA (stereo audio in)
- **Input 2 Connectors:**
  - 1 x DVI-I for digital and analog Computer/TV/HDTV
  - 1 x DVI-I for loop through
  - 3.5mm jack for stereo audio in
- **Input 3 Connectors:**
  - 1 x BNC for SDI/HD-SDI
  - 1 x BNC for loop through
  - 3.5mm jack for stereo audio in
- **Output Connectors:**
  - 1 x HD15
  - 1 x BNC (PAL/NTSC)
  - 1 x BNC (SDI/HD-SDI)
  - 1 x mini DIN 4 pin
  - 1 x DVI-I digital and analog
  - 2 x RCA (stereo audio)
- **Other:**
  - 1 x BNC for Genlock input
  - 1 x BNC for Genlock output loop
  - 1 x DB9 for RS232 control and upgrade
  - RJ45 for TCP/IP, optional
  - 2 x RCA for Digital Audio In & Out

## Power Supply

- Internal, universal, automatic, 100-250 VAC; 50/60 Hz (40 W) (UL, CSA, GS, CE) ON/OFF AC Main switch

## Supplied with

- 1 x DVI-I/HD15 adaptor
- 1 x HD15 to 5BNC adaptor cable
- 1 x Power cable
- 1 x Remote control software
- 1 x User manual

## Dimensions: 19", 1U

- D 10.4" x W 19" x H 1.74"
- D 265 mm x W 482 mm x H 44 mm

Weight: 3.8 kg / 8.4 lbs

## Warranty

3 year warranty on parts and labor back to factory

Specifications subject to change without prior notice

## USA, Canada, Latin America and The Caribbean

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**Tetra-VIO™** by Analog Way is a highly versatile A/V Switcher / Converter / Interface with 3 universal Inputs and 1 SD/HD-SDI Input. It accepts a large range of formats, from Computer to Video and HDTV, in Analog or Digital format, and provides a large range of connectors: BNC, HD15, DVI, mini DIN4, Cinch, RCA. The output provides the same diversity of formats, and the same type of signals and connectors.

## 4 AV Inputs: 3 Universal + 1 HD/SD-SDI

Each of the 3 universal inputs features an active loop through (monitoring) for easy control of the sources and accepts the following formats:  
- **TV:** NTSC/PAL/SECAM, S.Video, RGB or YUV, HDTV in HD-YUV or HD-RGB analog,  
- **Computer formats:** RGB up to UXGA and 2K. Input 2 also accepts digital DVI signal. The 3<sup>rd</sup> input is dedicated to SDI & HD-SDI 10 bits with embedded stereo audio.

## Genlock

Equipped with an Analog Genlock input with an active loop through. **Tetra-VIO** offers a choice between SDTV Black Burst and Black HD-YUV. It allows genlocking of HDTV output signal on an SDTV Black Burst. User phase adjustments are available for a perfect result.

## Formats I/O

**Tetra-VIO** supports numerous input and output formats and signal types. These formats are:

- HDTV** • 720p @ 60, 59.94 & 50 Hz
  - 1080i @ 60, 59.94 & 50 Hz
  - 1035i @ 60 Hz & 59.94 Hz,
  - 1080sF @ 30, 29.97 & 25 Hz,
  - 1080p @ 30, 29.97, 25, 24, 23.98 Hz
- SDTV** • NTSC - 525i @ 60 & 59.94 Hz - 15.735 kHz
  - PAL - 625i @ 50 Hz - 15.625 kHz
  - Progressive NTSC - 31.471 kHz@60/59.94Hz
  - Progressive PAL - 31.250kHz@50Hz
- COMPUTER** • up to 2048x1080RB\* & 1600x1200 @60Hz in both analog RGB & DVI

## Output

The same format is available simultaneously on different outputs. For example: Computer formats are delivered in RGB and in DVI-D at the same time, SD-TV formats are available in Composite, S.Video, YUV and SDI, etc.

\*RB: Reduced Blanking

**Tetra-VIO** features 4 Analog Audio Stereo In and 1 Out and also one Digital SPDIF audio In/Out. It allows embedding Analog and SPDIF Digital Audio stereo signal into SD/HD-SDI with A/V delay compensation. (Fs: 48kHz - 20/24 bits). It also extracts and outputs SPDIF digital Audio stereo signal from the SD/HD-SDI embedded stream.

**Tetra-VIO** offers a high quality image thanks to:

- its new high performance true 10 bit video path processing with automatic 3:2 and 2:2 pull down circuitry,
  - de-interlaced SD and HD TV format,
  - auto adaptative pixel per pixel level motion compensation,
  - auto centering, clock, time base corrector,
  - frame rate converter and follower and
  - multi-level anti-flicker.
- The image adjustments and device setup are recorded in a non-volatile memory.

**Tetra-VIO** is a universal device with six functions in one: Scan Converter, Scaler, Standard converter with TBC, Audio De/Embedder, Switcher and Interface. Its high flexibility makes it essential in complex installations. It is extremely useful in solving signal compatibility issues at the last minute. In addition to a powerful multi-format Converter, **Tetra-VIO** is also a smooth and fast Audio / Video Switcher offering many useful features such as a 500% Zoom, a user programmable EDID for DVI input, etc... The standard RS232 connection and GUI allow a full remote control of the device and upgrade capability to maintain the high value of your equipment throughout time. Optional RJ45 is available for TCP/IP control.

**Tetra-VIO** is your accurate "all in one" versatile Input/Output tool.

## Reference

> **TVC401:** Tetra-VIO™

## Option

> **OPT-LAN:** TCP/IP Control Interface

## Cables for Tetra-VIO

- > 1.8m/6ft to 20m/66ft BNC Cables
- > 1.8m/6ft to 20m/66ft S.Video Cables
- > RCA Cables
- > 0.4m/1.3ft to 30m/100ft VGA Cables
- > 1.8m/6ft and 3m/10ft (M/M - F/M) VGA/BNC Adaptor Cables
- > 0.5m/1.6ft to 30m/100ft Control Cable
- > 3m/10ft to 30m/100ft M/M BNC SDI-HD M/M Cables
- > 1.8m/6ft to **70m/230ft** DVI Cables