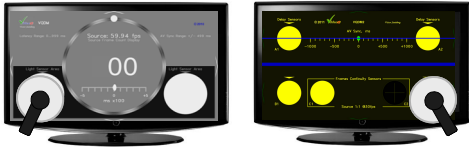


# VQDM-100 – AV Test Pattern Generator and multi-channel AV Delay & AV Sync Analyzer



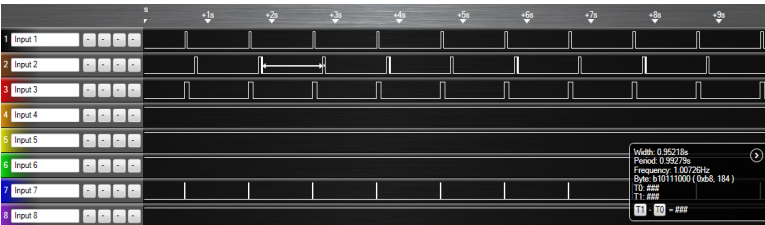
## Video & Audio Payout and Measurement for Displays and Video Processors Testing and Calibration

- Versatile compact and robust multi-purpose video calibration and measurements tool
- Instant visual-aural quality estimation plus automatic **Latency**, **AV Sync** and **Frames Continuity** measurement
- Easy-to-use multi-channel device, revealing AV delay time profiles, AV sync errors and AV delay statistics in real time
- Comprehensive **library** of unique sophisticated **dynamic test patterns** and **sequences** on HDMI/DVI output
- All commonly used **resolutions**, **aspect ratios**, **frame rates** and **interlace** modes, **2D** and **3D** test patterns
- **Easy navigation** via on-screen menus
- Ideal tool for video conference systems installers, video systems integrators, video development labs

VQDM-100 plays AVC/H264 files with bitrates up to 58 Mbps, so 1080p60 test patterns looks like uncompressed

VQDM-100 automatically measures Latency, AV Sync and Frames Continuity – true glass-to-glass black box testing

### VQDM Pulse Preview Windows GUI



### VQDM Measurement Ranges

<b>VQDM1</b>	Latency: 0 to 999 ms AV Sync: and +/- 499 ms
<b>VQDM2</b>	Latency: 0 to 1999 ms AV Sync: and +/- 999 ms

### Content Features

- **VQDM1** – black/white test suitable for glass-to-glass test
- **VQDM2** – black/yellow/blue test for codecs and processors, also provides for frames continuity testing
- **VQL** – complete VideoQ library of static and dynamic test patterns

### VQDM Patterns – Resolutions and Frame Rates

**1920x1080 only:** 23.98p, 24p, 50i, 60i, 50p, 60p

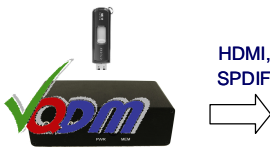
### VQL Patterns – Resolutions and Frame Rates

<b>720x480:</b>	59.94p
<b>720x576:</b>	50p
<b>1280x720:</b>	50p, 60p
<b>1920x1080:</b>	23.98p, 24p, 50i, 60i, 50p, 60p

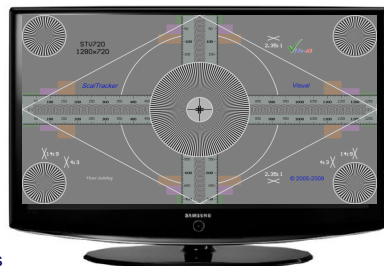
### VQL Content Categories

- Scaling, Cropping, Interlace, and Sharpness Tests
- Levels, Colors, and Gamma Tests
- Timing, Motion Portrayal and Motion Blur Tests
- Moving Zone Plate Tests, 2D and 3D versions
- Standard Line-based Test Patterns
- Live clips – high quality samples
- Audio Tests in 5.1 surround & 2.0 stereo formats

Additional Content on USB Flash or HDD



HDMI, SPDIF



Set of VQDM & VQL Test Patterns in the internal memory

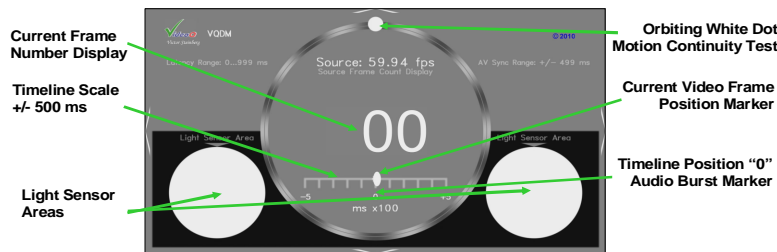
# VQDM-100 – AV Test Pattern Generator and multi-channel AV Delay & AV Sync Analyzer



## VQDM Delay and Sync Measurement Methodology

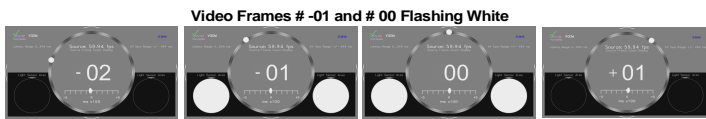
- VQDM methodology is based on specially designed sophisticated dynamic AV test patterns, available in 2D and 3D formats
- Test patterns components are compatible with a majority of video cameras, software or hardware codecs and media players
- VQDM1 and VQDM2 test patterns contain only relatively large components; they remain suitable for accurate measurements even after low bitrate coding and severe position and/or scaling errors, e.g. zoom-out down to 25% or overscan up to 110%.
- Large Light Sensor Areas allow testing cameras and displays of any resolution, including mobile video devices

## VQDM dynamic AV test patterns allow triple usage: visual-aural, instrumental and fully automated

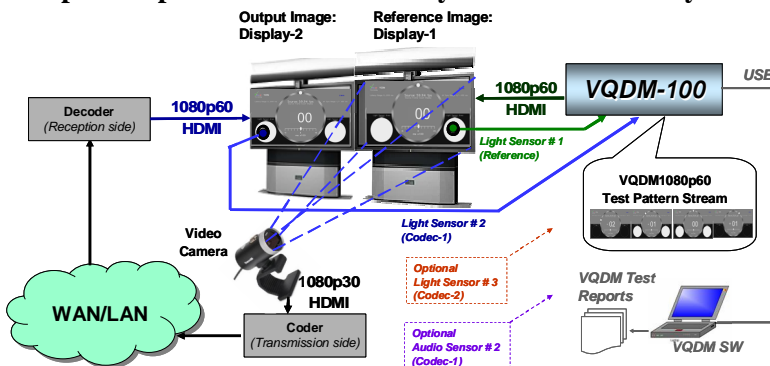


## Components of VQDM1 Test Pattern:

- Highly visible frame numbers in the central area
- Synchronously rotating white dot (clock dial)
- Two normally black circular Light Sensor Areas flashing white for 2 video frames every 1,000 ms
- Sliding ellipse marker indicating current frame position within the +/- 500 ms timeline scale; position '0' marks 1 kHz Audio Burst



## Setup Example – Teleconference System Video Latency



## Brief Specification

- Video Sensor Inputs: x4, light sensors with soft plastic vacuum caps, mini-jack 3 m cables
- Audio Sensor Inputs: x4, mini-jack 3 m cables,
- Latency Measurement Range: 0 to 1999 ms
- AV Sync Measurement Range: +/- 999 ms
- Measurement Accuracy: +/- 1 ms, typical
- Test Duration: from 10 s to 10,000 s
- Optional Sync Pulse Adapter VQHD420

VideoQ, Inc. – California-based company, focused on video test & measurement and video enhancement technologies, products and services. More than 50 man-years of award-winning experience in the field of Broadcast, Consumer Electronics, Transcoding and Video Data Compression.

VideoQ is a renown player in calibration and benchmarking of Displays, Video Projectors, Transcoders, Graphics and Video Processors, instantly revealing artifacts, problems and deficiencies, thus raising the bar in video quality experience.

Other related VideoQ products:

VQTS-300

VQL

VQS-300

VQMA

VQS-200

