**Audio-to-Video Delay Corrector**

The AVDC100 solves the complex problem of monitoring and correcting lip-sync errors in today's professional broadcast plant. Based on patented Tektronix digital video watermarking technology, the AVDC100 is designed to install directly into the live audio and video program paths for automatic and continuous monitoring and correction of annoying static or variable lip-sync errors.

**Digital Video Watermarking is the Enabling Technology**

The AVDC100 uses digital video watermarking technology to create a subliminal data channel within the live video signal. This data channel is then embedded with a compressed version of the live audio waveform envelope, effectively creating an audio-to-video time reference within the video signal itself. At any point “downstream” in the program distribution path, the watermarked video can be sampled by a second AVDC100 which detects the watermarked signal and decodes the previously embedded audio “time reference.” The second AVDC100 continuously monitors timing variations between the decoded audio time reference and the original audio program, the result of which is an indication of lip-sync error. The AVDC100 can correct for lip-sync errors automatically or manually. In automatic mode, the user configures the AVDC100 to use the measured lip-sync error to control an internal audio delay line to dynamically re-time the audio and video. In manual mode, the user can monitor the measured lip-sync error remotely or from the instrument front panel and manually set the AVDC100 internal audio delay line to compensate for lip-sync errors.

**Fast and Objective Results**

Existing means for measuring lip-sync errors rely on either subjective assessment or interfering test signals and audio tone bursts. However, the AVDC100 removes the need for skilled operators and out-of-service testing, relying instead on the actual audio and watermarked video program content itself to provide consistent in-service objective results. Lip-sync measurements are constantly updated and displayed on the built-in LCD panel or accessed via the 10Base-T Ethernet port for remote monitoring and instrument configuration.

**Features & Benefits**

- Automatic Correction and Detection of Audio-to-Video Delay Errors Eliminates Time-consuming Subjective Testing
- Watermarked Source ID Feature Allows Identification of Program Origination, Ownership or Proof of Content Play-out
- In-service Operation with Live Programming Allows Uninterrupted Testing
- Ethernet Interface Provides Remote Monitoring
- Fast, Objective Measurements

**Applications**

- Monitoring and Correction of Variable Lip-sync Errors in Program Feeds Caused by Variable Program Path Timing
- Monitoring and Correction of Lip-sync Errors Within a Broadcast Facility Caused by Excessive Video Processing
- Watermarking Valuable Program Source Material for Proofs of Content Play-out or Determining Program Origination
- Localizing Lip-sync Error “Trouble Spots” Within a Television Distribution Network
- Lip-sync Error Quality Control of Incoming Program Feeds

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Embedded Source ID
In addition to an audio timing reference, the AVDC100 allows embedding of a user configurable source ID into the video channel. The source ID is permanent, surviving MPEG and JPEG compression, archiving, cropping, ADC and DAC conversions and many other types of video processing steps. The source ID can then be later decoded by another AVDC100 for the purpose of identifying program origination, ownership or providing proof of content play-out by logging when the Source ID was detected.

Characteristics
Front Panel
LCD Panel, 2 Rows x 20 Characters. Selection Buttons with LED Indicators. Menu Navigation Keys.

Measurement and Correction Range
2 Seconds Total Lip-sync Measurement Range. Up to 30 Video Fields of Correction (audio advanced relative to video).

Inputs/Outputs
One 525/625 270 Mb/s Serial Component Video Input. One 525/625 270 Mb/s Serial Component Video Output. AES Coax Stereo Input, 48 kHz, 24-Bit (BNC). AES Coax Stereo Output, 48 kHz, 24-Bit (BNC).

Remote Interfaces

Environmental

Regulatory

EMC

Ordering Information
AVDC100
Audio-to-Video Delay Corrector.

Standard Accessories
Operator’s manual. Single unit rackmount kit. AVDC100 user reference card.

Optional Accessories
TVF16 – Dual AVDC rackmount kit.

International Power Plug Options