

# iControl Lip Sync Monitoring

## End-to-end lip sync error detection and measurement

iControl Lip Sync Monitoring allows lip sync error detection and measurement to be performed across broad signal distribution networks, using Densité modular processing and probing cards. With its unique signal fingerprint comparison technology, iControl Lip Sync Monitoring allows detection of conditions where the synchronization between audio and video has been severed. Whether the signals are local, or distributed over remote locations, iControl Lip Sync Monitoring can collect fingerprint data over IP networks to perform detection of lip sync errors and accurate measurement of the actual delays. iControl Lip Sync Monitoring is an option for Control Web, iControl QC, iControl RSM, iControl PM, and iControl Edge.

### KEY FEATURES AND BENEFITS

#### Powerful lip-synchronization detection and alarming

- › Real-time computation of fingerprints from multiple signals
- › Powerful lip sync delay analysis
- › Detection of up to  $\pm 4$  seconds of delay
- › Delay measurement with a  $\pm 2$ ms accuracy
- › Delays expressed in both milliseconds and frames

#### Multi-signal, multi-site, multi-format monitoring

- › Collects fingerprints from multiple Densité modules, including:
  - ADX-3981: 3Gbps/HD/SD 8 AES audio & Metadata de-embedder
  - AMX-3981: 3Gbps/HD/SD 8 AES audio & Metadata embedder
  - EAP-3901: 3Gbps/HD/SD embedded audio processor
  - EAP-3101: SD embedded audio processor
  - HLP-1801: HD/SD lip-sync probe
  - XVP-3901: 3Gbps/HD/SD up, down & cross converter with audio processor
- › Supports lip sync monitoring across multiple key signal formats
- › Multi-site support: fingerprints can be collected from multiple locations, and can be compared centrally or across multiple sites
- › Signal groups can be defined for more effective monitoring across complex networks

#### Accurate measurement and extensive alarm management

- › User-selectable alarm thresholds
- › Provides accurate lip sync error measurement in milliseconds
- › Alarms and measurements can be forwarded to Kaleido multi-viewers
- › All alarms can be captured by the powerful iControl log viewer
- › Detected lip sync alarms can also be configured with the iControl alarm management, for email notification, SNMP alarming and other automatic action triggers



### For more information about Densité interfacing modules with fingerprint generation, see:

› ADX-3981	3Gbps/HD/SD 8 AES audio and Metadata de-embedder .....	128
› AMX-3981	3Gbps/HD/SD 8 AES audio and Metadata embedder .....	125
› EAP-3901	3Gbps/HD/SD embedded audio and Metadata processor .....	160
› EAP-3101	SD embedded audio and Metadata processor .....	(see <a href="http://www.miranda.com">www.miranda.com</a> )
› HLP-1801	HD/SD lip-sync probe .....	200
› XVP-3901	3Gbps/HD/SD up, down and cross converter with audio processor .....	78

### ORDERING INFORMATIONS

IC-LIP-SYNC-2	2-signal lip sync monitoring option*	IC-BASE-EDITION	iControl system including 1RU Application Server (see page 546)
IC-LIP-SYNC-4	4-signal lip sync monitoring option*	IC-BASE-EDITION-ENT	iControl system including 1RU enterprise-grade Application Server (see page 546)
IC-LIP-SYNC-8	8-signal lip sync monitoring option*		
IC-LIP-SYNC-16	16-signal lip sync monitoring option*		
IC-LIP-SYNC-32	32-signal lip sync monitoring option*		
IC-LIP-SYNC-SITE	Multi-signal lip sync monitoring option*		*requires Miranda products with fingerprint generator

# Lip sync detection across entire network

The temporal relationship between video and audio can be compromised every time the signal is encoded and decoded, or when video/audio processing is performed. In broad television signal distribution networks, such as the one depicted below, the possibility of lip sync errors is substantial, especially when signals are transmitted across several locations. iControl Lip Sync Monitoring can collect data from a host of Densité modules to perform, over IP, end-to-end detection and measurement of lip sync errors.

## Kaleido integration

Detected lip sync errors and measurements can be forwarded to Kaleido-X and Kaleido-X16 multi-viewers, for on-screen reporting. This allows operators to be made aware of errors, even if they are not actively listening to audio and watching video.

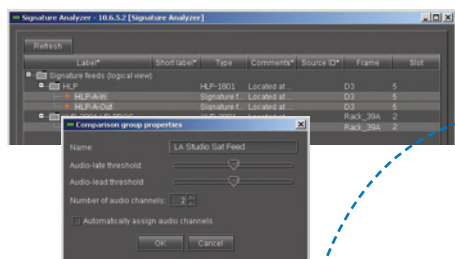


Kaleido multi-viewer



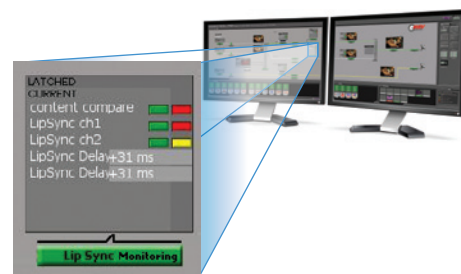
## End-to-end lip-sync error monitoring

With its rich graphics and powerful user interface, iControl Web provides the ideal environment for multi-site, multi-channel lip sync monitoring. Because audio-to-video monitoring can be depicted in the actual distribution topology of the broadcast chain, it becomes much easier for an operator to understand the consequence of lip sync errors, and to take corrective actions without impacting valid portions of the signal distribution.

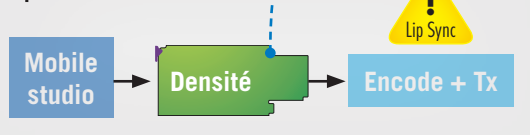


iControl Application Server

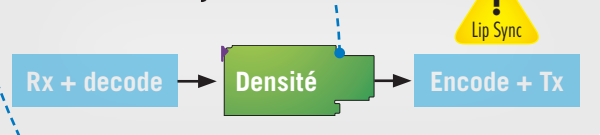
iControl Lip Sync Monitoring



## Special events venue



## Remote TV facility



## Broadcast facility

