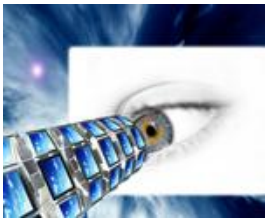


TeleSight

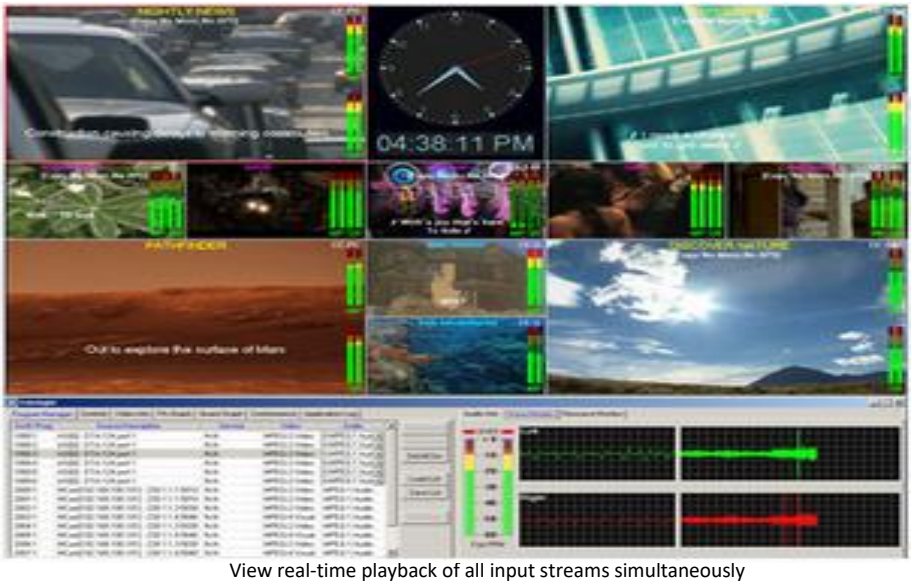
See it and test it in real-time

Delivering responsive content monitoring and testing in real-time

Organizations in broadcast and digital media industries deal with volumes of media content, in different formats, and with a variety of different standards. Managing and ensuring content integrity and quality is a challenge that Broadcasters, Operators, Content Provider, and OTT/IPTV service providers face on a daily basis.

Multiviewer and Analyzer Combined

TeleSight is a monitoring and quality assurance solution that provides powerful real-time monitoring and analysis of video streams. Whether you are at local or remote sites, TeleSight incorporates complete analyzer capabilities for testing bit-stream conformance while simultaneously decoding and displaying data streams in real-time. The combination of a multi-viewer and in-depth analyzer provides a comprehensive display of signal statistics and conditions within a single glance. This combined offering allows operators to visually inspect all programs being processed with the assurance that they are delivering the highest level of video quality to their customers.



View real-time playback of all input streams simultaneously

Vision Beyond the Screen

TeleSight addresses the need for operators to monitor large volumes of streams simultaneously. Often it is not practical to see everything on screen. TeleSight allows operators to fully test with confidence the quality of their video streams without having to see it all.

Summary

TeleSight is a video quality monitoring and testing solution for real-time video distribution. The combination of real-time video monitoring and in-depth testing provides further exposure to errors and how to pinpoint problems in the distribution network – thereby allowing operators to take corrective action earlier. This results in delivering the highest level of video quality.

TeleSight Applications

- IPTV, VOD, OTT
- Mobile Production
- Telco Transmission
- Satellite Transmission
- IP Network Distribution

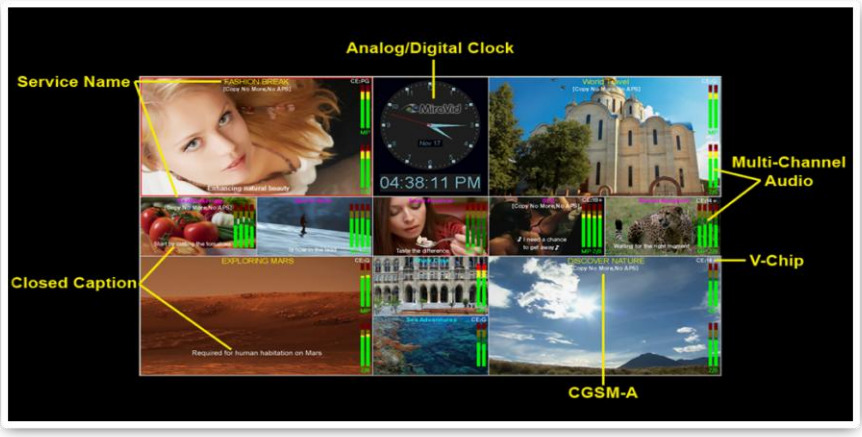
For Organizations

- Ability to test a large number of programs simultaneously and continuously (24/7/365)
- Full range monitoring – system, video, audio, and loudness
- Full video, audio, and transport conformance test against industry specifications ensures decoder compatibility

TeleSight offers unparalleled performance with real-time decoding, displaying, and analysis for all input streams simultaneously, including TR-101-290 tests, video conformance tests, black and frozen video detection, audio clipping and silence detection. Its multi-viewer display is highly configurable in the way you want your programs displayed and organized. Alarms and alerts are easy to set-up based on constraints and thresholds that you defined in the system.

Responsive Content Monitoring

On a typical day Video Service and Network Operators need to address a range of problems in their control room, while simultaneously monitoring numerous program channels, so considerable time may elapse before a problem is noticed. TeleSight immediately notifies the operator of any problems that arise, so that action can be taken to ensure minimal impact to customers. TeleSight's comprehensive set of reporting capabilities provides information that exposes the origin of the problem and the level of impact (system, video, or audio) for faster and efficient troubleshooting.

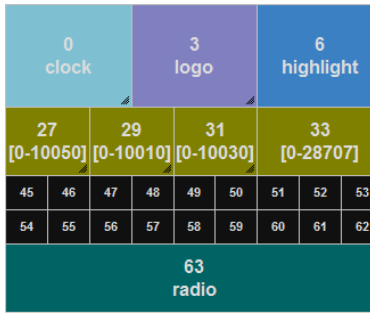


Standard features include data traffic monitoring and logging, engineering and analysis controls, and up to 6 supported audio streams per program.

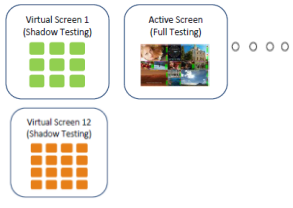
What is unique to TeleSight is its continuous full-range testing on and off screen, which allows the operator to define the programs he/she wishes to visual monitor on screen, while simultaneously run full-range testing against a defined number of programs in the background. These programs in the "background" are set up as virtual (mosaics) screens, which allow the operator to test large volumes of programs in the background without visually seeing them in the current mosaic. Errors and alerts will appear on the main display screen for all programs, on screen and background programs. If errors should occur in any of the programs in the background (virtual screens), an error bar will appear and can automatically pull the screen forward. Operators have the option to cycle through the various screens/mosaics (main and virtual screens) based on time or manually as required.

For Technical Users

- Customizable multiviewer display interface for ease-of-use



- Ability to mix a variety of input types with custom layout support
- Performs real-time validation at system, video and audio layers, including TR 101-290 tests, video conformance tests, black and frozen video detection, audio clipping and silence detection
- Ability to view real-time playback of all input channels simultaneously or zoom in on one
- Option to capture stream when errors are detected for troubleshooting (with a file-based media analyzer, such as MSight)



Virtual screens (background testing), when not actively being viewed by the operator, are actively monitored and fully tested.

In-Depth Testing

A key differentiator of TeleSight over traditional multiviewers and content monitoring solutions is its depth of testing, including video conformance testing. As each video compression standard defines what is considered as a compliant video stream, video conformance testing determines if a stream meets those criteria. By having video conformance testing the operator is able to determine whether the video is compliant or not without an operator having to visually detect it. Video conformance error alarms and warning messages will be shown on the main display screen for programs on screen and program in the background

(virtual screens). In cases where an operator needs to monitor and test large volumes of channels, video conformance testing becomes a good way detect errors quickly and efficiently.

- Video level testing (black and frozen video)
- Audio level testing (silence, max, and clipping)
- TR-101-290 testing (priority 1, 2, 3)
- Loudness monitoring (CALM compliance)
- Video conformance testing (syntax testing at video codec level for MPEG-2, H.264)
- Bitrate max/min threshold alarms
- Caption presence detection alarms

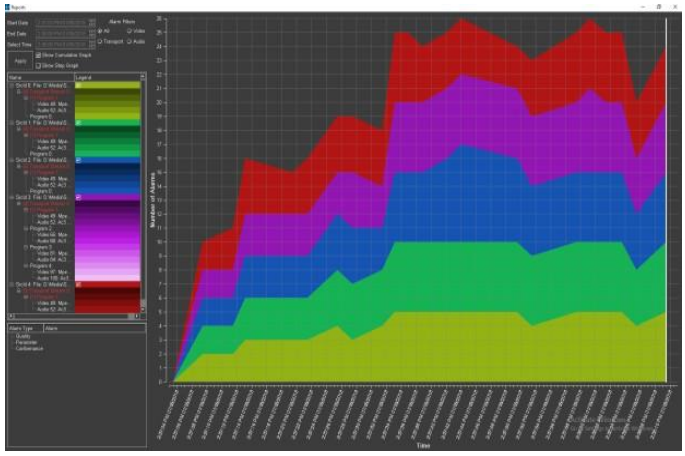
The depth of testing and speed at which errors are detected allows organizations to address problems early and minimize cost of errors and customer complaints. Having both real-time multi-viewing capabilities and full-range video stream analysis and testing allows network operators to take command of their control room.

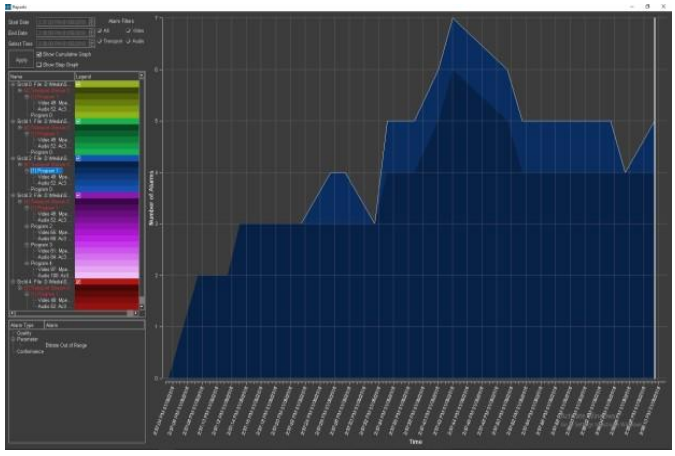
TeleSight Interactive Reporting

Customers have high expectations for video quality and have little tolerance when they see bad video and service interruptions. TeleSight's Interactive Reports measures and analyzes the quality of experience of your video service by answering questions like,

- Which video sources and programs had the most video quality issues last week?
- How often was my service down this month and for how long?
- There was a video service issue at 9 pm yesterday. What programs were affected and what was the root cause?

TeleSight's Interactive Reports delivers a full range of graphical data reporting and analysis. Interactive drill-down capabilities help users find the root cause of the problem more efficient for a quick resolution. Historical and trend reports provide a comprehensive view to gather valuable insights for further video quality optimization.





TeleSight's intuitive graphical interface allows you to see an aggregate view of your video services and deep-dive into the sources and programs that are the most problematic. Through interactive navigation, the user can drill down to the date/time, the program, and the specific alarms and errors to determine the root of the problem. The tree view provides a convenient way for users to navigate and drill down to relevant information quickly.

TeleSight Features

Multi-viewer (display)	
Real-time multi-viewer	Ability to simultaneously view all input sources in real-time (versus thumbnail display) allows for better response time and management of video streams.
Customizable display	Ability for the user to configure the layout of image display, configurable placement, and size of all input video sources.
Real-time time playback	Real-time playback of input channels allows network operators to detect problems quickly and efficiently.
Program Cycling (Round Robin)	Ability to manage multiple source lists, offering a convenient way to load and review (cycle) through multiple screens of input source lists. The operator can set and activate auto-play cycling of source lists based on time interval.
Background Testing	Round-robin video mosaic monitoring with continuous testing of all programs. Ability to monitor and test high volume of streams simultaneously, visually displaying a group of channels at a time. Background testing off-screen (shadow testing) allows customers to test and analyze more streams and support lower levels of testing.
Dual Mosaic Monitoring	The dual mosaic display enhances TeleSight's multiviewer functionality by providing an option for customers to display on the screen up to 80 channels across two video mosaics simultaneously. This multiviewer feature allows customers the flexibility to monitor their video channels across two mosaic display screens from a single TeleSight machine, without sacrificing performance or power.

Monitoring (test & analyze)	
In-depth testing and analysis	In-depth system, video and audio quality and video conformance level tests help to identify the origin of the problem, as well provide information on signal traffic for better troubleshooting.
Audio Loudness monitoring	Monitoring, alarming and logging features to support Commercial Advertisement Loudness Mitigation Act (CALM Act) Regulations.
Error Notification	Alarms and errors logging can be configured for a local log, SNMP, Syslog, and Email/SMS alerts upon critical error detection provides quick response-time. GPO interface can be connected to an alarm device (buzzer, light) as an option.
Remote Monitoring	Allows multiple users simultaneous remote access to real-time monitoring of video and audio streams.
Site Management	TeleSight Site Manager allows customers to manage multiple TeleSight systems from a central TeleSight system. The operator can see in a single view the health of all your video streams from all your monitoring points in your media chain and remote sites. The Site Manager dashboard displays status indicators (green, yellow, and red) of which sites have active alarms, categorized by alarm type (system, video, audio). This allows the operator to see at a single glance which sites require immediate attention for quick and efficient troubleshooting.
Comprehensive Reporting	
Status and Alerts	Provides a comprehensive set of status and alerts for responsive content monitoring, including traffic status, signal loss, clocks and timers, and more.
Reports and graphs	Provides more responsive monitoring through detailed reporting on video quality, including black, frozen, graphing of video quant, GOP structure (picture graph), audio waveforms, loudness, silence, closed caption, graphing of video quant, video bitrate, IP packet loss/delays, and more.
Interactive Reporting	TeleSight's Interactive Reporting delivers a full range of graphical data reporting and analysis. Interactive drill-down capabilities help users find the root cause of the problem more efficiently for a quick resolution. Historical and trend reports provide a comprehensive view to gather valuable insights for further video quality optimization.
SNMP and Syslog notifications and reports	Provides a more granular level of reporting and logging to better uncover the source of the problem for better video quality optimization. Integration with Dataminer and other third-party network management systems.

TeleSight Specifications

Platform options: TeleSight Hardware system or TeleSight Software Solution
MPEG-2, H.264/AVC, H.265/HECV MPEG-4 Part 2, VC-1, AVS Video
RTSP, RTP/RTCP, SDP, RTMP, HLS, MPEG-DASH
Max Audio ES per Program
MPA, SMPTE-302M Audio
AAC, HE-AAC (v1, v2) , Dolby AC-3, Dolby+, Audio
SNMP v1/v2c/v3, SMIv2
Closed Caption and XDS
DVB Teletext, VPS and WSS traffic status
SCTE-35 CUE traffic status
Data Traffic Monitoring and Logging
PCR Analysis (accuracy, interval check)
PID Grid (overview of all PIDs)
Remote Client (Remote Real-Time Mosaic)
GPO Support (for alarm notification)
Dual/multiple mosaic monitoring

Available Test Features
Video Level Monitor (VLM) ▪ Freeze, Black
Audio Level Monitor (ALM) ▪ Silence, Clipping, and Max
IP Layer ▪ Dropped packet detection for RTP layer ▪ RTP header length error
TR-101-290 (transport stream layer) (Priority 1, 2, 3)
Video Conformance and macroblock error detection (MPEG-2, H.264, MPEG-4 part2, VC-1) ▪ in-depth video conformance testing at the video codec level
Loudness Monitoring ▪ Audio Loudness measures include the Integrated, Short-term, and Momentary Loudness, Dialnorm, and Loudness Range ▪ Enable compliance with CALM regulations ▪ Derived from ATSC A/85, ITU BS.1770, and EBU R128 accordingly)

TeleSight Hardware Platforms

With support for all major compression standards and the ability to mix different input types, TeleSight offers a high degree of flexibility in how it can be configured to meet the needs of customers. Contact us for more information on our hardware configuration guidelines.

TeleSight Software-Only Edition

TeleSight Software-Only addresses a need in the market for a software solution for real-time monitoring and testing. TeleSight Software-Only Edition provides all the monitoring and testing features and capabilities found in our TeleSight (hardware-based) solutions. MiraVid will provide recommended hardware specifications and configuration based on customers' monitoring requirements.

Input:

Source	Resolutions
ASI	HD, SD, 3G
HD/SD SDI	4K HEVC
IP	
DVB-S/S2	**Audio Codec**
DVB-T/T2 (T2-MI)	MPA
	AAC
	HE-AAC
Video Codec	SMPTE-302M
H.265/HEVC	Dolby AC-3
H.264/AVC	Dolby +
MPEG-2	
MPEG-4 Part 2	
VC-1	
4:2:2 10-bit	

Formats
NTSC
PAL

Output:

Video	Audio
DVI	1/8” (3.5mm)
HDMI	mini jack
VGA	HDMI

Expansion Options:

- 4-port ASI/SDI input
- 4-port ASI/HD-SDI input
- 12-port ASI/HD-SDI input
- 4-port GigE
- 2-port DVB-S/S2 input
- 2-port DVB-T/T2/QAM/QPSK input

Contact us for more information

Email: sales@miravid.com

Phone: +1 (905) 604-2348