

CerifyLite™ – Quality Control for File-based Video

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Job	Result	Name	JobStatus	Progress	MediaSet	Profile	Priority	File	File Size	Creator	Status	Start Time	Copy
Commercials MPEG-2 03-25-05	Complete	Commercials 03-25-05	Complete	100%	Commercials 03-25-05	Commercials	Medium	2	32.63MB	admin	Active	2006-03-18 05:07:43.0	Rs
Commercials MPEG-2 03-27-05	Complete	Commercials 03-27-05	Complete	100%	Commercials 03-27-05	Commercials	Medium	2	32.63MB	admin	Active	2006-03-18 05:08:52.0	Rs
Documentary Channel 03-12-05	Complete	Documentary Channel 03-12-05	Complete	100%	Documentary Channel 03-12-05	Documentary Channel	Medium	1	6.16MB	admin	Active	2006-03-18 05:06:29.0	Rs
Movies MPEG-2 04-01-05	Complete	Movies 04-01-05	Complete	100%	Movies 04-01-05	Movies	High	3	41.30MB	admin	Active	2006-03-18 05:06:15.0	Rs
Movies MPEG-2 Mar-05	Complete	Movies Mar-05	Complete	100%	Movies Mar-05	Movies	Medium	3	41.30MB	admin	Active	2006-03-18 05:08:11.0	Rs
News MPEG-2 03-21-05	Complete	News 03-21-05	Complete	100%	News 03-21-05	News	Low	4	32.84MB	admin	Active	2006-03-18 05:09:52.0	Rs
News MPEG-2 Mar-05	Complete	News Mar-05	Complete	100%	News Mar-05	News	Low	4	32.84MB	admin	Active	2006-03-18 05:09:20.0	Rs
Sports MPEG-2 03-15-05	Complete	Sports 03-15-05	Complete	100%	Sports 03-15-05	Sports	Medium	2	33.34MB	admin	Active	2006-03-18 05:08:53.0	Rs
Sports MPEG-2 Mar-05	Complete	Sports Mar-05	Complete	100%	Sports Mar-05	Sports	Low	2	33.34MB	admin	Active	2006-03-18 05:10:14.0	Rs

CerifyLite Video Content Verification

Quality control of file-based video presents many challenges. Files may be received from different sources and encoded at different bitrates, formats and compression standards for SD/HD, VOD, DVD and IPTV delivery. QC operators need to be able to check the details of each file and that it conforms to the expected template of parameters.

At the digital level, the audio and video must be correctly encoded without errors in accordance with the compression standard, so that it plays out correctly in the correct format and bitrate. At the baseband level, signal levels, color space, frame format and quality must be checked to the quality-of-service levels expected by the customer.

Manual inspection can play out, watch and listen but is subjective and cannot look inside the encoding and check that the correct encoding parameters have been used. For example, have the packet size, GOP structure and bitrates been set correctly?

CerifyLite provides an objective test solution to these challenges in a convenient software package for use on PCs and laptops. It is ideal for post production and content houses who need to check that file-based video is correct before it is dispatched.

CerifyLite is based on the award-winning Cerify product which has already been selected by leading broadcasters and telecom companies in the USA, Canada, Europe and Australia.

► Features & Benefits

Replaces Error-prone, Time-consuming Processes of Visually Inspecting Video Content

Performs Consistent and Thorough Checks of Video Files Against User-defined Templates

Tests For Encoding Errors, Format, Bitrate, Quants, Framerate, GOP, Aspect Ratio, Color Format, VBV Buffer, File Size

Tests for Closed Captions, TeleText, CableLabs VoD Compliance

Tests Video Playtime, Signal Levels, Gamut, Luma, Chroma, Black Frames, Blockiness

Tests Audio Peak and Minimum Levels, Audio Loss, Clipping, Mute, Test Tones

Video – MPEG-2, MPEG-4, H.264, VC-1/WMV9

QCIF, CIF, SD, D1, 720p, 1080i Formats

Audio – MPEG-1, MPEG-2, MPEG-2 AAC, AAC-Plus, HE-AAC, PCM, AC3

ASF, GXF, MXF Wrappers

PC Software for Windows XP

Browser-based User Control

Upgrade Path to the Full Cerify

CerifyLite and Cerify Databases of Templates and Results Are Fully Compatible and Interchangeable

► Applications

Smaller Broadcasters – For Checking Audio and Video Files After Encoding, At Ingest, After Editing and Before Playout for Terrestrial, Satellite, Cable, Internet and Video-on-Demand Content

Post Production and Content Providers – For Checking that Post Production Content Has Been Correctly Encoded and Conforms to the Required Quality and Format Standard Before Dispatch to the Broadcaster

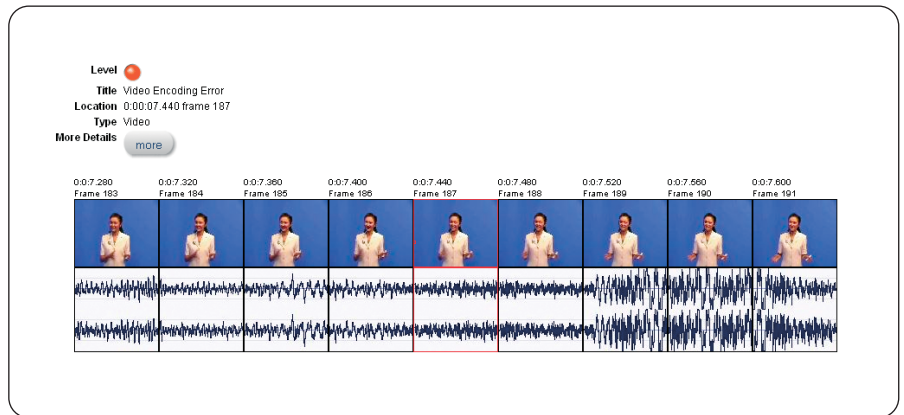
DVD Houses – For Checking Production

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CerifyLite™ provides the same full range of encoding and baseband tests as Cerify V3.0. This includes extensive testing of file compression, quantization, bitrate, format tests and baseband type video tests for letterbox/pillarbox, gamut, luma, chroma and video signal levels. Audio tests include audio peak and minimum level, audio loss, clipping, mute and test tones on audio channels.

The test results and template databases are Cerify-compatible so that a production or DVD house using CerifyLite can use the same templates and checks before dispatching the content to the broadcaster testing with Cerify on Ingest. CerifyLite is also ideal for smaller broadcasters with limited amounts of content to check, and as a stepping stone to the full Cerify. An upgrade path is available.



► Detailed on-screen reports.

CerifyLite installs on a standard PC and can test files on the local drives. It includes detailed on-screen reporting of the file parameters and test results. It does not include the integration and automation features of the full Cerify.

► Characteristics

Standards Supported

Video Formats –

HD and SD – NTSC, PAL, SECAM, 24 fps.

Resolutions –

QCIF, CIF, SD, D1, 720p, 1080i/50, 1080i/60 (and non-standard sizes from 16x16 to HD+).

Systems Level –

MPEG-2 TS, Program stream, PES, MPEG-4 Parts 1, 14 and 15, 3GPP, ASF, GXF, MXF.

Video –

MPEG-2, MPEG-4 Part-2, H.264/AVC (MPEG-4 Part 10), VC-1/WMV9, H.263+, H.263.

Audio –

MPEG-1, MPEG-2, MPEG-2 AAC, AAC-Plus (MPEG-4 AAC), HE-AAC, PCM, AC3.

Test Templates and Levels Are User-controlled and Include:

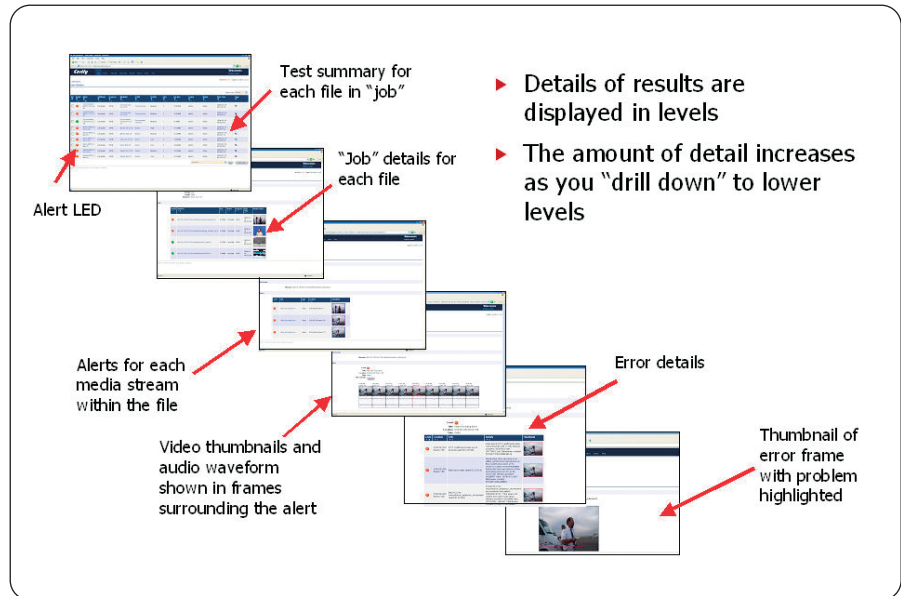
- Systems level transport stream tests
 - Correct Standard and integrity
 - File size, Bitrate, Playtime, number of video and audio streams in transport container
 - Packet size, Cable Labs VOD compliance, Presence of closed captions, Teletext
- Video Tests
 - Correct encoding Standard, Profile, Level and Syntax checks for encoding errors
 - GOP structure, Quantization, Frame rate, Bitrate, Frame size, Interlaced/ progressive, Aspect ratio
 - Baseband tests including Gamut levels, Luma, Chroma, Signal levels, Letterbox/ Pillarbox, Playtime
 - Color depth, Color format (4:2:0, 4:2:2), Copyright
 - Black frames (lead in, lead out and during the video), blockiness
- Audio Tests
 - Correct encoding Standard, Profile, Level and Syntax checks for encoding errors
 - Sample rate, Bitrate, Playtime
 - Number of channels, peak and minimum signal levels on each channel
 - Audio Silence (lead in, lead out and during the video), clipping, mute, test tones

- Reporting
 - Browser-based on-screen job reports and detailed drill down to error details
 - Text/HTML query reports of all files in the database with full file details and error reports
- Different templates and profiles can be set up for different content types and sources

► Ordering Information

Please contact your local service manager for information regarding our products and services or contact us at:
www.tektronix.com/serviceandsupportcontactus

CerifyLite Results



Report by Job, Type, Date Range, File Name, etc.

Level	Type	Location	Title	Details
error	video	00:00:000 frame 3	Invalid t_code (alert ID 22015)	In an i_picture, t_code[0] must be 15. Here it is set to 2. Stream position: 0x74 (dec: 112), bit 3 Bitstream context: [SQIPCC][LIMB][BLK]
error	video	00:00:200 frame 156	DCT coefficient index out of bounds (alert ID 22199)	Inter block DCT coefficient index out of bounds (65 >= 64) Stream position: 0x2e763 (dec: 3077987), bit 3 Bitstream context: [SQIPCC][LIMB][BLK]
error	video	00:00:200 frame 156	Bad slice order (alert ID 22210)	Restricted slice structure is in effect, yet the first macroblock of the current slice (x=0, y=31, slice=31) does not immediately follow the last macroblock of the preceding slice (x=32, y=30, slice=30). Stream position: 0x2e763 (dec: 3077987), bit 7 Bitstream context: [SQIPCC][LIMB][BLK]
error	video	00:00:200 frame 156	Bad VLC for macroblock_address_increment (alert ID 22100)	Invalid VLC for macroblock_address_increment encountered bit pattern '0000010101'. This does not match any valid code value. Stream position: 0x2e760 (dec: 3076384), start bit 1 Bitstream context: [SQIPCC][LIMB]
error	video	00:00:200 frame 156	Bad slice order (alert ID 22210)	Restricted slice structure is in effect, yet the first macroblock of the current slice (x=0, y=32, slice=32) does not immediately follow the last macroblock of the preceding slice (x=13, y=31, slice=31). Stream position: 0x2e760 (dec: 3076384), bit 7 Bitstream context: [SQIPCC][LIMB][BLK]
error	video	00:00:640 frame 172	Bad slice order (alert ID 22210)	Slices must be contained within a single row of macroblocks. The current macroblock (x=0, y=16) belongs to a slice from a previous row. Stream position: 0x348755 (dec: 3442517), bit 0 Bitstream context: [SQIPCC][LIMB][BLK]
error	video	00:00:640 frame 172	Bad slice order (alert ID 22210)	Slices must occur in raster-scan order and not overlap. However the current macroblock with index 0 (x=0, y=18, slice=18) occurs earlier in raster-scan order than the previously decoded macroblock with index 0 (x=0, y=18, slice=18). Stream position: 0x348756 (dec: 3442520), bit 7 Bitstream context: [SQIPCC][LIMB][BLK]

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www.tektronix.com



Product(s) are manufactured in ISO registered facilities.

Product(s) complies with IEEE Standard 488.1-1987, RS-232-C, and with Tektronix Standard Codes and Formats.

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