Cerify® 200 - Automated QC of File-based Video

CYC200 • CYS200 • CYM200 Data Sheet

Features & Benefits

- Replaces Error-prone, Time-consuming, and Expensive Manual Process of Visually Inspecting Video Content
- Runs Automatically 24/7 to Perform Consistent and Thorough Checks of Incoming Video Files Against User-defined Templates
- Integrates with Video Servers
- Integrates with Automation and Asset Management Systems Using CeriTalk API
- Each Unit Test can Test Four Files Simultaneously, and Multiple Units can be Clustered Together to Achieve Very High Throughputs
- Logs Errors, Informs Automation Systems, Plus Programmable Actions such as E-mail User Alert, Quarantine, and Move Files
- High-reliability Server Integrates through GigE with Installed Video Server Systems
- Web-browser User Control

Tests include:

- Encoding Errors, Syntax Errors, Format, Bit Rate, Quants, Frame Rate, GOP, Aspect Ratio, Color Format, VBV Buffer, File Size, Correct PID, CableLabs VoD Compliance
- Video Playtime, Signal Levels, Gamut, Luma, Chroma, Black Frames, Video Quality (Blockiness), Freeze Frame, Field Order, Telecine Pulldown
- Audio Playtime, Peak and Minimum Levels, Audio Loss, Clipping, Mute, Test Tones

Formats

- **Video**: MPEG-2, IMX30/50, D10, XDCAM, MPEG-4 AVC (H.264), VC-1/WMV9, MPEG-4 Part 2, H.263, DV/DVCPro25, DV/DVCPro50, DVCPro100/HD
- **Wrappers**: MPEG-2 Transport Stream, MPEG-2 Program Stream, MP4, 3GPP, MXF, GXF, MOV, ASF
- **Format**: QCIF, CIF, D1, 720p, 1080i, 1080p
- **Audio**: MPEG-1, MPEG-2, MPEG-2 AAC, AAC-Plus, HE-AAC, PCM, WMA, AC3, Dolby E

Applications

- **Broadcasters**: For Checking Audio and Video After Encoding, At Ingest, After Editing, After Transcoding, and Before Playout for Terrestrial, Satellite, Cable, Internet, and Video-on-Demand Content
- **Archiving**: For Checking Integrity Before and After Archiving
- **Content Providers**: For Checking Postproduction Content Has Been Correctly Encoded and Conforms to the Required Quality and Format Standard Before Dispatch to the Broadcaster

Tektronix®

With Cerify® You Know Your Content is Correct Before it is Transmitted or Used

Quality control of file-based video that may be ingested from different sources and encoded at different bit rates, formats, and compression standards for SD/HD, VOD, and IPTV delivery presents considerable challenges. File-based video must be quality checked for:

Correct Syntax: 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 at the customer's STB/playout device.

Correct Parameters: The audio and video bit rates, GOP structure, video color-space, color depth, frame size, frame rate, aspect ratio, and quantization levels must be correct.

Correct Baseband and Quality Levels: The analog parameters of signal levels, luma, chroma, gamut, and quality levels of black frames, video quality (blockiness), loss of audio, audio clipping, and video and audio playtime.

Manual inspection can playout, watch, and listen but is subjective and cannot look inside the encoding to check that the correct parameters have been used - for example, have the packet size, GOP structure, and bit rates been set correctly?

Cerify® 200 solves all these problems, and can be easily integrated with Automation and Asset Management systems using the CeriTalk API. It is the world's first and leading automated system for checking/verifying file-based video content prior to transmission or use.

Cerify® 200 uses the latest server technology providing high throughputs and processing speeds. Each test unit can test four files simultaneously and units can also be clustered to provide high throughputs and redundancy.

Testing is in accordance with user-defined templates, and can run fully automatically 24/7. Jobs can be assigned different priorities depending on how quickly they need to go to *air*.

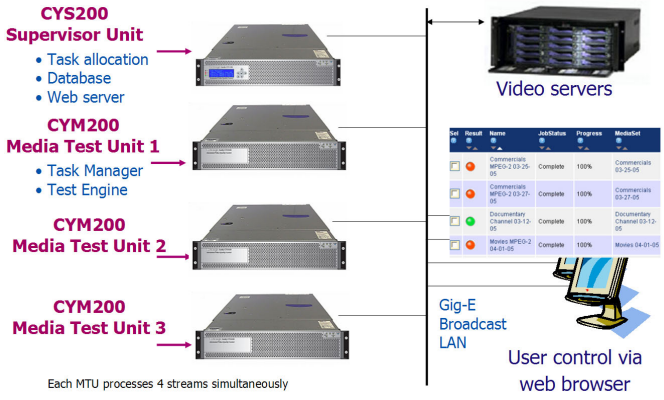
Cerify® logs errors as the content is checked, can inform automation systems, move files depending on the results, and e-mail users and content encoders detailing the errors found.

CeriTalk API provides complete integration with automation and asset management systems.

Multiple Cerify® Media Test Units

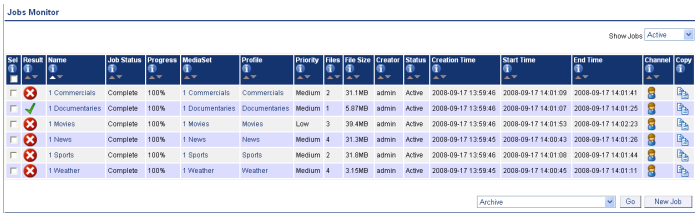
Cerify can be used as a single unit, or alternatively multiple Cerify Media Test Units can be used on a network, providing enhanced throughput for multiple content channels, and load redistribution and redundancy in the event of failure.

- The testing of files is controlled by a Cerify Supervisor Unit, which allocates test Jobs to the Media Test Units (where there is only one Cerify unit, it acts as Supervisor and Media Test Unit).
- User access is through a standard Web browser from any location on the network.
- Integrates with, and can be controlled by, Automation and Asset Management Systems using the CeriTalk API.

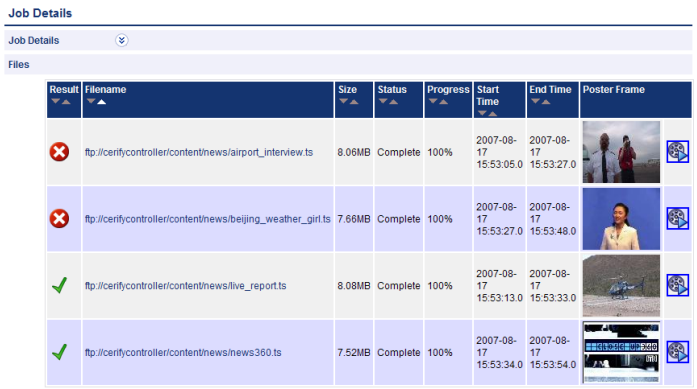


User Interface

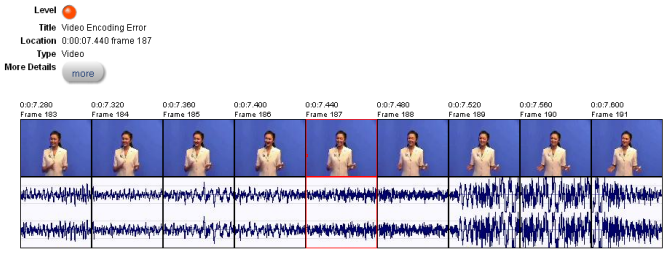
Easy-to-Use Web Browser Interface Shows Jobs Status Results at Top Level as Red Light / Green Light



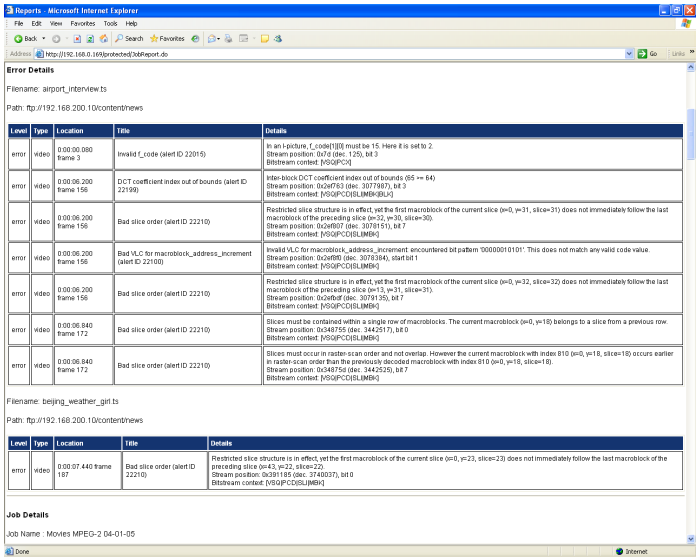
Click to Get Job Details

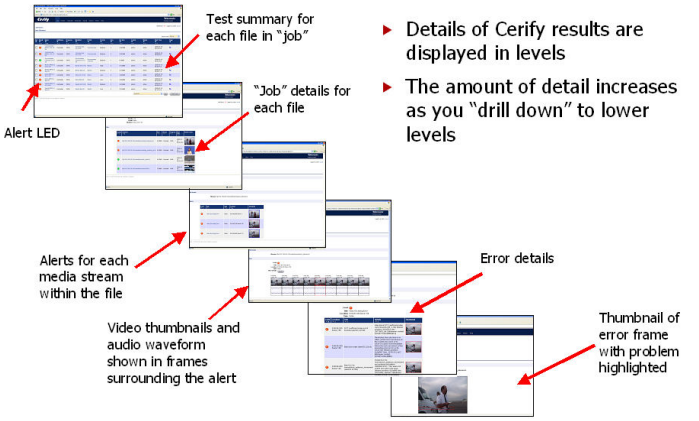


Click to Get Details of Stream Errors



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





Characteristics

Standards Supported

Standard	Description
Video Formats	HD and SD - NTSC, PAL, SECAM, 24 fps
Resolutions	QCIF, CIF, SD, D1, 720p, 1080i/50, 1080i/60, 1080p (and nonstandard sizes from 16×16 to HD+)
Systems Level	MPEG-2 TS, Program stream, MPEG-4 Parts 1, 14 & 15, 3GPP, MXF, GXF, MOV, ASF
Video	MPEG-2, IMX 30/50, D10, XDCAM, MPEG-4 AVC (H.264), VC-1/WMV9, MPEG-4 Part 2, H.263, DV/DVCPro25, DV/DVCPro50, DVCPro100/HD
Audio	MPEG1, MPEG2, MPEG2 AAC, AACPlus (MPEG-4 AAC), HE-AAC, PCM, WMA, AC3, Dolby E

Test Templates and Levels are User-controlled and Include:

- Container Level Transport System Tests
  - Correct Standard and Integrity
  - File Size, Bit Rate, Playtime, Number of Video and Audio Streams in Transport Container
  - Packet Size, Cable Labs VOD Compliance
  - Signalling of Close Captions, Teletext
- Video Tests
  - Correct Encoding Standard, Profile, and Syntax Checks for Encoding Errors
  - GOP Structure, Quantization, Frame Rate, Bit Rate, 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), Video Quality (Blockiness), Frozen Frames, Field Order, Telecine Pulldown
- Audio Tests
  - Correct Encoding Standard, Profile, Syntax Checks for Encoding Errors
  - Sample Rate, Bit Rate, 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
- Action Templates and Reporting
  - Copy or Move File on Success or Error.
  - E-mail Alerts with Test Reports
  - Web-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
  - ***CeriTalk*** Automation API
- Multiple User Templates and Profiles Can Be Set Up for Different Content Types and Sources
- XML-based Templates can be Imported and Exported

Ordering Information

Cerify® 200 can be ordered as a single CYC200 Combined unit.

Product	Option	Description
CYC200		Combined Supervisor and Media Test Unit
CYC200	MP2	MPEG-2
CYC200	MP4	MPEG-4 and H.263 (Baseline)
CYC200	AVC	H.264/AVC
CYC200	VC1	VC-1
CYC200	DV	DV

Cerify® 200 can also be ordered as a cluster of one CYS200 Controller unit and multiple CYM200 Media Test Units

Product	Option	Description
CYS200		Supervisor Unit for network clusters
CYM200		Media Test Unit for Cerify clusters
CYM200	MP2	MPEG-2
CYM200	MP4	MPEG-4 and H.263 (Baseline)
CYM200	AVC	H.264/AVC
CYM200	VC1	VC-1
CYM200	DV	DV

Installation Service

Installation services are included with all Cerify® 200 Series products. Installation services are defined in a statement of work and include system design, configuration, implementation, testing, and documentation.

System Support Service

Purchase MN options for comprehensive on-site hardware and software maintenance service per unit.
If no MN Option is purchased, Cerify® 200 Series products include a 12-month return-to-depot, hardware-only repair warranty.

Option	Description
MN1	1-year maintenance agreement. Must be ordered within 60 days of product purchase.
MN3	3-year maintenance agreement. Must be ordered within 60 days of product purchase.
MN5	5-year maintenance agreement. Must be ordered within 60 days of product purchase.

MN Options	Description
Software Maintenance	Includes software updates
Telephone Technical Support	Technical support during regular business hours, Monday through Friday
On-site Repair	Repairs performed at your facility
Parts Exchange	Advanced parts exchange with next-day delivery.

Note: Service coverage can be renewed for subsequent 12-month periods.

CE

ISO 9001 Product(s) are manufactured in ISO registered facilities.

GPIB IEEE-488 Product(s) complies with IEEE Standard 488.1-1987, RS-232-C, and with Tektronix Standard Codes and Formats.

Contact Tektronix:

ASEAN / Australasia (65) 6356 3900

Austria +41 52 675 3777

Balkans, Israel, South Africa and other ISE Countries +41 52 675 3777

Belgium 07 81 60166

Brazil +55 (11) 40669400

Canada 1 (800) 661-5625

Central East Europe, Ukraine, and the Baltics +41 52 675 3777

Central Europe & Greece +41 52 675 3777

Denmark +45 80 88 1401

Finland +41 52 675 3777

France +33 (0) 1 69 86 81 81

Germany +49 (221) 94 77 400

Hong Kong (852) 2585-6688

India (91) 80-42922600

Italy +39 (02) 25086 1

Japan 81 (3) 6714-3010

Luxembourg +44 (0) 1344 392400

Mexico, Central/South America & Caribbean 52 (55) 54247900

Middle East, Asia, and North Africa +41 52 675 3777

The Netherlands 090 02 021797

Norway 800 16098

People's Republic of China 86 (10) 6235 1230

Poland +41 52 675 3777

Portugal 80 08 12370

Republic of Korea 82 (2) 6917-5000

Russia & CIS +7 (495) 7484900

South Africa +27 11 206 8360

Spain (+34) 901 988 054

Sweden 020 08 80371

Switzerland +41 52 675 3777

Taiwan 886 (2) 2722-9622

United Kingdom & Ireland +44 (0) 1344 392400

USA 1 (800) 426-2200

For other areas contact Tektronix, Inc at: 1 (503) 627-7111

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For Further Information. Tektronix maintains a comprehensive, constantly expanding collection of application notes, technical briefs and other resources to help engineers working on the cutting edge of technology. Please visit **www.tektronix.com**

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