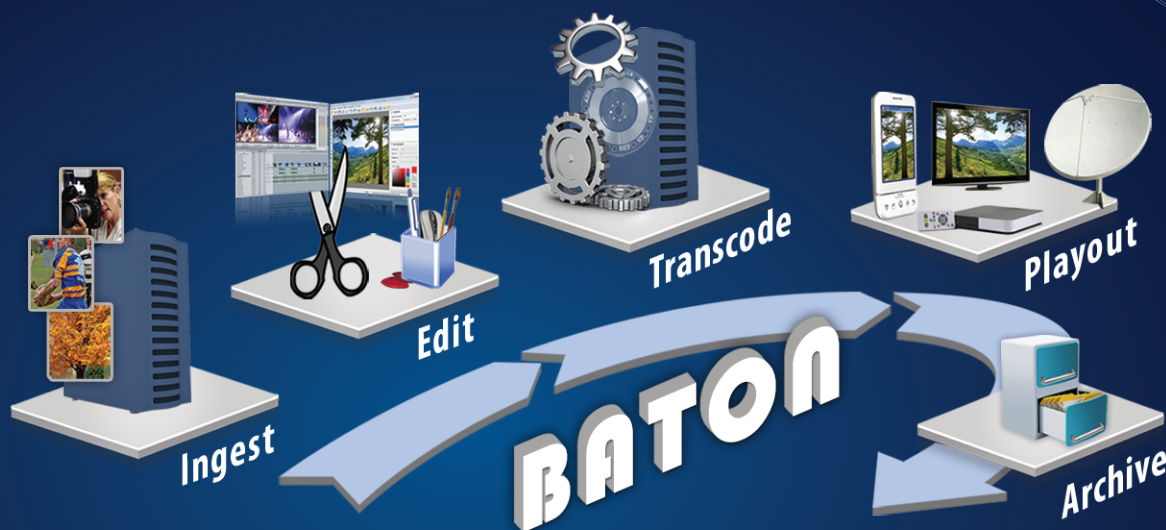# BATON®

Enterprise-class Automated File-based QC

BATON – Improves Efficiencies Across Content Lifecycle

Interra Systems' BATON® is the leading enterprise-class QC solution used globally by broadcasters, OTT, post production houses, IPTV and archiving companies working with file-based media. BATON is the trusted choice for all their file-based QC needs with its comprehensive quality checks, scalability, support for a wide range of media formats, and an intuitive web-based interface.

BATON

BATON is the next generation hybrid QC solution with scalable and enterprise-class features offering verification efficiency and comprehensive quality checks in a flexible environment.

BATON MEDIA PLAYER (BMP)

BMP is an industry grade media player with options for SDI playout. The integrated desktop-based player works in sync with BATON for fast, frame-accurate manual review of content. BMP lists eyeball QC checks enabled in the test plan, allowing users to add necessary errors, as well as mark each manual task as reviewed. BMP is also available in standalone mode to playback media files.

BATON CONTENT CORRECTOR (BCC)

BCC auto-corrects a host of audio, video and metadata errors detected by BATON in media files through an intuitive browser based interface.

BATON +

BATON+ is an add-on tool that offers extensive QC trend analysis across multiple BATON systems to improve workflow efficiency.

WINNOW

WINNOW is an add-on tool that is enabled by AI/ML technology to recognize and categorize content for classification and compliance. This tool aims at compliance and identification of content against regulations in different countries.

Hybrid QC Solution
BATON's unified hybrid QC platform implements organizational QC policy to support a combination of automated and manual QC checks. The result is a well integrated and efficient broadcast workflow.

Video Ad Serving Template (VAST) Support
BATON is the industry's first QC solution to support VAST protocol, a universal XML specification for serving digital video ads to players, with an extensive feature set and support for comprehensive quality checks.

Unmatched 4K Content Verification Speed
BATON offers comprehensive quality checks optimized for performance.

Cloud QC Enabled
BATON works seamlessly with popular cloud computing infrastructure services.

Reliable QC with Comprehensive Quality Checks
BATON provides the most comprehensive checks covering standards compliance, regulatory checks and baseband checks in the industry, including PSE/flashiness checks.

Manual QC
BATON supports Manual QC to manually perform quality checks on content.

Scalability and High Availability
BATON's scalable architecture lets users expand the BATON farm as their QC needs grow. BATON's high availability ensures that the system continues in the enterprise environment even if one of the hardware components is down.

Wide Integrations
BATON provides the most comprehensive integrations with media servers, transcoders, MAM, archiving and workflow solutions through its easy to use web-services based APIs.

Pre-configured Multiple Delivery Formats
BATON ensures ease of deployment with pre-configured testplans for DPP, Netflix, CableLabs and a full list of delivery standards.

Multi-Segment ABR Transcoding
BATON performs ABR specific checks on large volumes of VOD files, encoded at different bit rates, to ensure that the prepared content meets service provider and end-user quality expectations.

Efficient Pre/Post-QC Workflow with Smart Folders
BATON provides a set of rich content aware, rules-based, pre/post-QC filters for efficient content verification workflows.

Multi-lingual Reporting
BATON provides the most comprehensive and completely configurable reporting in multiple formats to suit your operational needs. Reporting languages include English, Chinese, Portuguese, Spanish and French, among others.

Extensive Subtitles and Closed Caption (CC) Data Verification and Audio Language Detection
BATON supports a host of subtitle and CC formats, both embedded and stand-alone. Verification includes dropouts, standards compliance, profane word detection, and many others. BATON can also perform multi-language checks of audio tracks.

Loudness Detection and Correction
BATON detects loudness issues in compliance with standards including CALM, EBU and others, and provides options for loudness correction.

Rich Set of Multi-severity Checks
BATON's unique multi-severity checks provide the ability to grade errors and configure actions based on the severity of the problem.

Auto-scaling
BATON offers auto-scaling functionality, both in the cloud and on-premises to scale up/down dynamically to meet growing QC requirements.

ICS — BATON
Available as an on-demand content verification service over the cloud.

Container Checks

Content layout, Slates, Closed Caption, Duration, File size, Audio/Video duration mismatch, Compare System to elementary metadata, Timecode checks, Teletext, Packet size, Ancillary data, Number of audio/video streams, Synchronization

Compliance Checks

DPP compliance, Digital Cinema compliance, IMF compliance, CableLabs VOD compliance, ARD_ZDF_HDF compliance, AS02 / AS03 / AS10 / AS11 compliance, TR101 290, ARIB specifications, DPI compliance

Video Checks

HDR Quality checks incl. SMPTE 2084 EOTF, lightness level (MaxFALL and MaxCLL), ST 2086, and ITU-R BT. 2020 compliance etc., Frame rate, Bit rate, Frame size, Aspect ratio, Duration, Resolution, Video format, Picture scanning type, AFD, GOP, Color format, Quantization parameter, Blockiness, Blurriness, Moiré pattern, Mosquito noise, Pixelation, Ringing artifact, Telecine/ cadence analysis, Combing errors, Field dominance, Field order, Duplicate frames, Freeze frames, Motion jerk, Ofcom- compliant Flash/ PSE (Flashy video), Action safe area, Black bars, Black frames, Blank frames, Color bars, Color banding, Credits, Ghosting artifact, Image presence, Shot transition, Color gamut, Upconversion, Luma/Chroma levels, Video noise, Chroma change, Defective pixels, Halfline blanking, Video dropout, Brightness, Contrast, White point, 3D experience, Image tilting, Burnt-in text detection, VBI Lines detection, Flicker, Logo detection, Offline media, Pattern Noise, Black and White Frames, Sawtooth Artifact, Digital Ghosting Artifact, Scratch Artifact, De-interlaced Jerk, Flicker, Frame Jump, Compression Score, Aliasing, Pulldown Judder, Solarization, Half Flash, Pulsing Noise, Composite Signal Level, Progressive Segmented Frame(PsF), Frame Jump, Content Complexity

Audio Checks

Kantar BVS Watermark, Audio language detection, Audio level (Min, max, avg), Dialnorm, Level mismatch, Loudness compliance (ITU, EBU, CALM Act, OP59, ARIB) (BS.1770-1, -2,-3), PPM meter, Silence, Crackle, Background noise, Colored noise, High frequency noise, Jitter noise, Line Pattern noise, Transient noise, Overmodulation noise, Echo, Wow & Flutter, Audio Impulsive Noise, Nielsen & Cinavia watermark, Click and pop, Clipping, Audio dropout, EAS tones, Misplaced channels, Phase detection, Stereo pair detection,Test tones, DPLM, Bitdepth upconversion detection, Repetitive pattern detection, Spectral aliasing detection, Audio impulse noise, Teletrax watermark, Basic alignment of speech with captions detection, Reverb, Beep, Multi reel audio click noise, Low Pass Filter
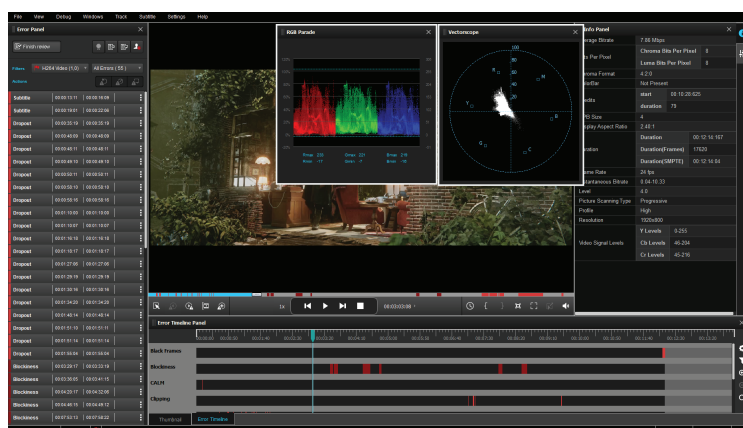
Data Checks

Subtitle analysis and language detection, Burnt-in text detection and analysis, Closed Captions, DPI messages. Display Duration, Character Count, Spell check, IMSC1 profile Validation, Character Code Table, Subtitle Position, Caption/Subtitle Alignment, Dropout, Display Duration, 608/708 Specific Checks, XDS Checks

Content Classification Checks

Explicit, Health Advisory Products, General Scene Classification, Violence, Keyword Detection, Strong Language Detection

Note: Some of the checks and codecs listed above are not part of the base package and need to be purchased separately

Key Features

- A comprehensive ML/AI enabled QC solution, available for Windows

- Hybrid QC platform with a combination of automated & manual QC checks on content

- Supports SD, HD, UHD, 4K Mixed workflows

- Intuitive, simplified and a very user-friendly Web-based user interface

- Extensive time code related checks including start TC / discontinuity / GOP / LTC, VITC and more

- Built-in Test Plans for various Standards and Workflows such as DPP, iTunes, Netflix, Cable Labs, ARD_ZDF, Ingest, Playout and more

- First QC system to support VAST formatted ads

- Supports S3, Spectrum, Avid Interplay and Google Cloud Servers, HTTP Server

- Efficient integration with media servers, transcoders, MAM archiving and workflow solutions through its easy to use web-services based APIs

- Supports audio language detection for 25 languages

- Scalable architecture for expansion of the BATON set up as QC needs grow

- Available as a subscription-based service for automated QC of file-based content

- Rich reporting features:
  - Multi-language reports in HTML, XML, PDF, Excel and JSON
  - Reports based on analytics, timeline, content structure and thumbnails
  - Incremental reports of tasks in progress
  - Compact reports to analyze verification summary
  - Options to comment, tag, rate and compare reports
  - Configurable e-mail, HTTP alerts including SNMP

- Supports user management & access control

- Comprehensive solution for task scheduling & monitoring

- Support for SOAP, XML-RPC, and REST APIs

Media Containers

MXF (All OP, OP-Atom), MP4, 3GPP, AAF, QuickTime (incl. reference files), MPEG-2 Transport (ATSC, DVB), MPEG-2 Program/DVD VOB, GXF, LXF, ASF, AVI, Matroska, VAST, Encrypted DCP, WebM, P2 Package

ABR Formats

Apple HLS, MPEG DASH, Microsoft Smooth Streaming (ISM)

Video Codecs

HEVC/H.265, Dolby Vision HEVC, H.264 (incl. AVC-Intra 100/50, Sony XAVC), MPEG-2 (incl. IMX30/50, XDCAM, D10), DV (25/50/100), VC-1, MJPEG2000, MPEG-4, MPEG-4 SStP, MVC, Frame sequential H.264, DNxHD (VC-3), Apple ProRES, Cineform, PhotoJPEG, MPEG-A, MJPEG-B, RGB, Canopus HQ and HQX, Uncompressed YUV, J2C, DPX, Avid Meridien, Apple Intermediate codec, Compressed JFIF, DNxHR, SonyRAW (F55/F65), Kodak Cineon, VP9 Video, EXR, Sony X-OCN, RED, RED2, AVS+, FFV1

Audio Codecs

Dolby AC-3, Dolby Digital Plus, Dolby-E, MPEG Audio, MPEG 2.5, MP3, BWF, AAC, AAC Plus, AES3, LPCM, ADPCM, AIFF, WAV, WMA (Standard & Professional), DV Audio, DTS Audio, Vorbis, FLAC Audio

DRM Support

Widevine, FairPlay, PlayReady

Image Formats

JPEG, GIF, TIFF, Targa, Kodak Cineon, PSD, PNG, ARRIRAW, DNG

Text Formats

CEA-608, CEA-708, Line 21, Timed Text / DFXP, SCC, STL, SMI, SRT, WebVTT, SMPTE 2052, SSA/ASS, IMSC1 Subtitles, iTunes Subtitle, CineCanvas, IMSC1, DCDM Subtitle format, EBU-TT, ARIB subtitles

24x7 Post Sales Support
BATON's renowned technical support is available anytime to ensure users are always up and running.