

An abstract graphic of white, wispy smoke or mist rising from the bottom of the page, partially obscuring the word 'MIST'.

MIST

BEYOND MASTERING

MIST

CONTENT MASTERING FOR DIGITAL CINEMA, BROADCAST & OTT

In one solution MIST provides all the necessary tools to produce the deliverables of today and tomorrow:

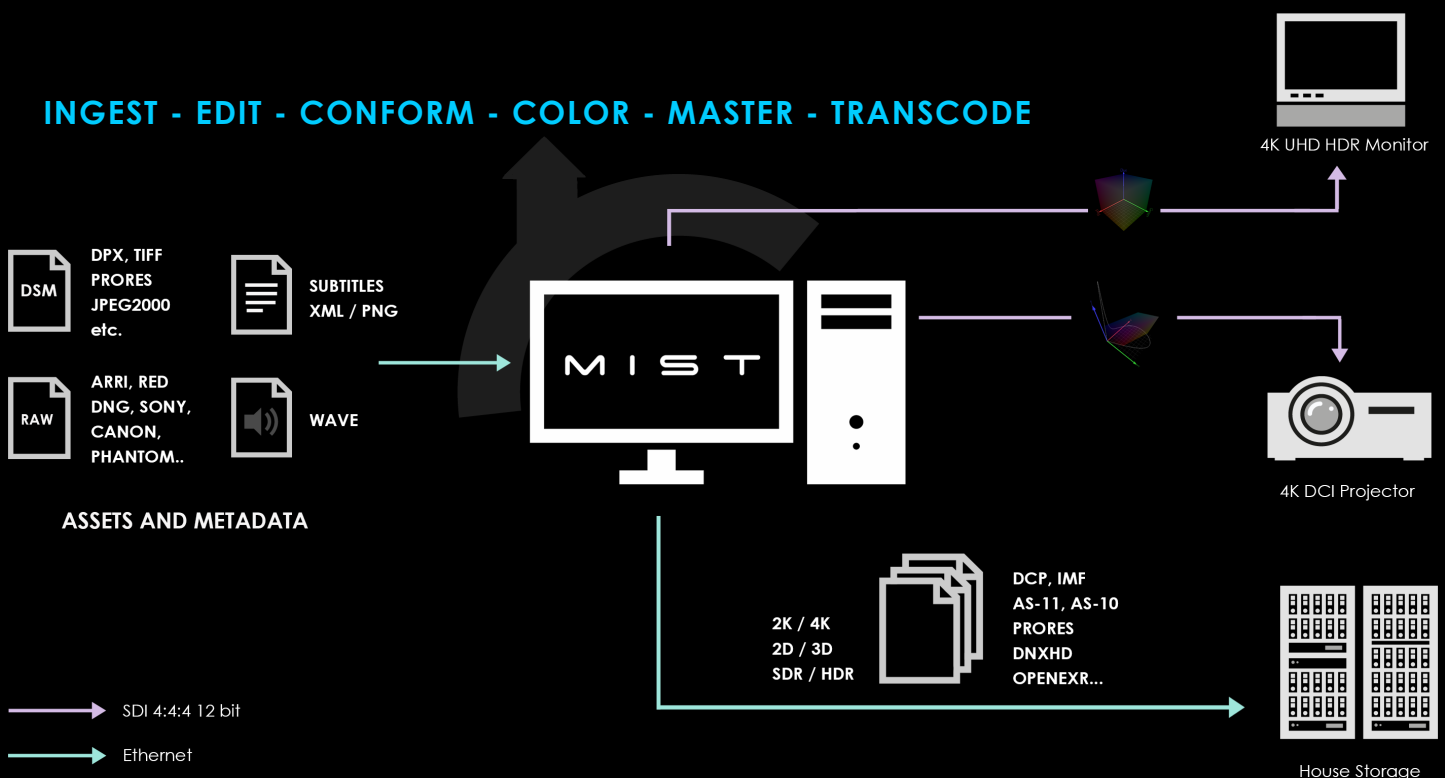
from RAW data to DCP or IMF, also including AS-02, AS-10, AS-11 DPP, in ACES or in HDR.

MIST masters them all.

Efficient from dailies to mastering, MIST also includes advanced color grading, editing and conforming capabilities.



INGEST - EDIT - CONFORM - COLOR - MASTER - TRANSCODE



V+ A+ S+ X+

Old Man Opening

Forest

Moon

Fox

House Outside

00:00:00:0000:00:08:0800:00:16:1600:00:25:0000:00:33:08

✓ 🔒 +

Untitled

3840 x 21608.01

3840 x 216015.21

3840 x 21604.16

3840 x 2160

00:00:00:0000:00:00:0000:00:15:2100:00:00:0000:00:04:1600:00:00:00

26bda6b-540a-4141-8...4...029ade29-409...d51f8...fd54f16e-a090-4f13-b3d0-aae68...7ab7943a-5c9e-4d...c5c7a06b-b09...0e997470-e906-4a5f...49eff2

00:00:00:0000:00:00:0000:00:00:0000:00:00:0000:00:00:0000:00:00:0000:00:00:0000:00:00:00

26bda6b-540a-4141-8...4...029ade29-409...d51f8...fd54f16e-a090-4f13-b3d0-aae68...7ab7943a-5c9e-4d...c5c7a06b-b09...0e997470-e906-4a5f...49eff2

00:00:00:0000:00:00:0000:00:00:0000:00:00:0000:00:00:0000:00:00:0000:00:00:00

26bda6b-540a-4141-8...4...029ade29-409...d51f8...fd54f16e-a090-4f13-b3d0-aae68...7ab7943a-5c9e-4d...c5c7a06b-b09...0e997470-e906-4a5f...49eff2

00:00:00:0000:00:00:0000:00:00:0000:00:00:0000:00:00:0000:00:00:0000:00:00:00

26bda6b-540a-4141-8...4...029ade29-409...d51f8...fd54f16e-a090-4f13-b3d0-aae68...7ab7943a-5c9e-4d...c5c7a06b-b09...0e997470-e906-4a5f...49eff2

00:00:00:0000:00:00:0000:00:00:0000:00:00:0000:00:00:0000:00:00:0000:00:00:00

26bda6b-540a-4141-8...4...029ade29-409...d51f8...fd54f16e-a090-4f13-b3d0-aae68...7ab7943a-5c9e-4d...c5c7a06b-b09...0e997470-e906-4a5f...49eff2

00:00:00:0000:00:00:0000:00:00:0000:00:00:0000:00:00:0000:00:00:0000:00:00:00

26bda6b-540a-4141-8...4...029ade29-409...d51f8...fd54f16e-a090-4f13-b3d0-aae68...7ab7943a-5c9e-4d...c5c7a06b-b09...0e997470-e906-4a5f...49eff2

00:00:00:0000:00:00:0000:00:00:0000:00:00:0000:00:00:0000:00:00:0000:00:00:00

7b479b4d-f598-4f0d-92...e...086dc186-e7d...58d8...2b6de37b-9351-4bb4-a892-1d2...040d1895-79f9-4a...3c2c72ae-402f...5386a3b9-3cf7-4ef8...381c4

00:00:00:0000:00:00:0000:00:00:0000:00:00:0000:00:00:0000:00:00:0000:00:00:00

7b479b4d-f598-4f0d-92...e...086dc186-e7d...58d8...2b6de37b-9351-4bb4-a892-1d2...040d1895-79f9-4a...3c2c72ae-402f...5386a3b9-3cf7-4ef8...381c4

00:00:00:0000:00:00:0000:00:00:0000:00:00:0000:00:00:0000:00:00:0000:00:00:00

MASTERING TIMELINE

The mastering timeline offers operations and displays that are not supported in a standard editing timeline. The segments and sequences (IMF), reels (DCP) and many other information like markers or custom locators are clearly displayed in MIST timeline.

Soundfields Management

MIST handles multiple soundfields in the same composition. This feature allows an elegant display of the actual structure of the masters and the current version. Soundfields can be later exported in packages or rendered, independently or all together.

TRACKREELSMARKERS

TEXT

00000

LeftTop

EDIT TEXT

>SPOT #

REC IN

REC OUT

FADE IN

FADE OUT

But here, we talk about your future,

3000:03:16:2100:03:19:03

I am the only one who can help you.

3100:03:19:1000:03:21:23

I don't know if I could leave him...

3200:03:22:0200:03:23:11

It will be fine.

3300:03:23:1900:03:25:21

You should learn to leave your father.

3400:03:26:0300:03:27:14

It's like death, you know

3500:03:27:2100:03:31:08

it's hard right away, then you mourn and...

3600:03:32:1000:03:34:14

...you forget about it.

TIMED TEXT MANAGEMENT

MIST offers the most extensive subtitles and captions management available in a mastering solution. Subtitles are fully editable, not only the text but also the size, font and location.

Navigation can be done within the spotting list with a mouse click, or by toggling the different subtitles tracks.

Subtitles in IMSC1 can be exported to EBU TTD and EBU STL.

Subtitles support includes IMSC1 for IMF packages, XML InterOp (Texas Instruments CineCanvas) and XML SMPTE (D-Cinema SMPTE 428-7) for Digital Cinema deliveries, MXF SMPTE Timed Text for Close Caption.

COLOR MANAGEMENT

The Color Management System interface available in MIST allows a maximum flexibility in the color pipeline. Several modes are possible, including custom 3D LUT support or Marquise CMS for manual settings.

Full ACES 1.1 pipeline

Working in ACES for mastering warrants standardized and reliable color transformation to the desired deliverables, including 4K IMF REC2020 or HDR HEVC. This important mastering process can be performed in a controlled viewing environment, using HDR reference display devices. ACES cc and ACES proxy are also fully implemented.

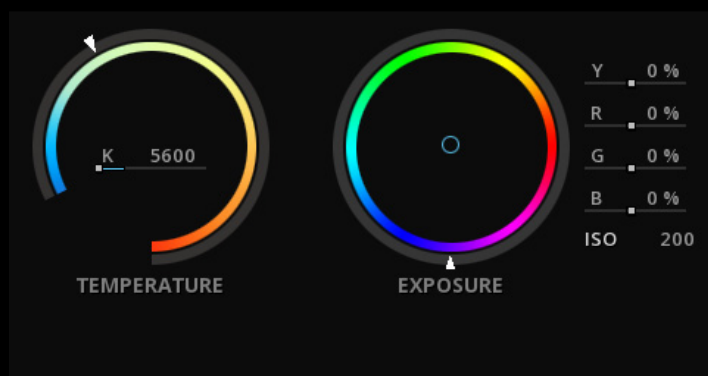
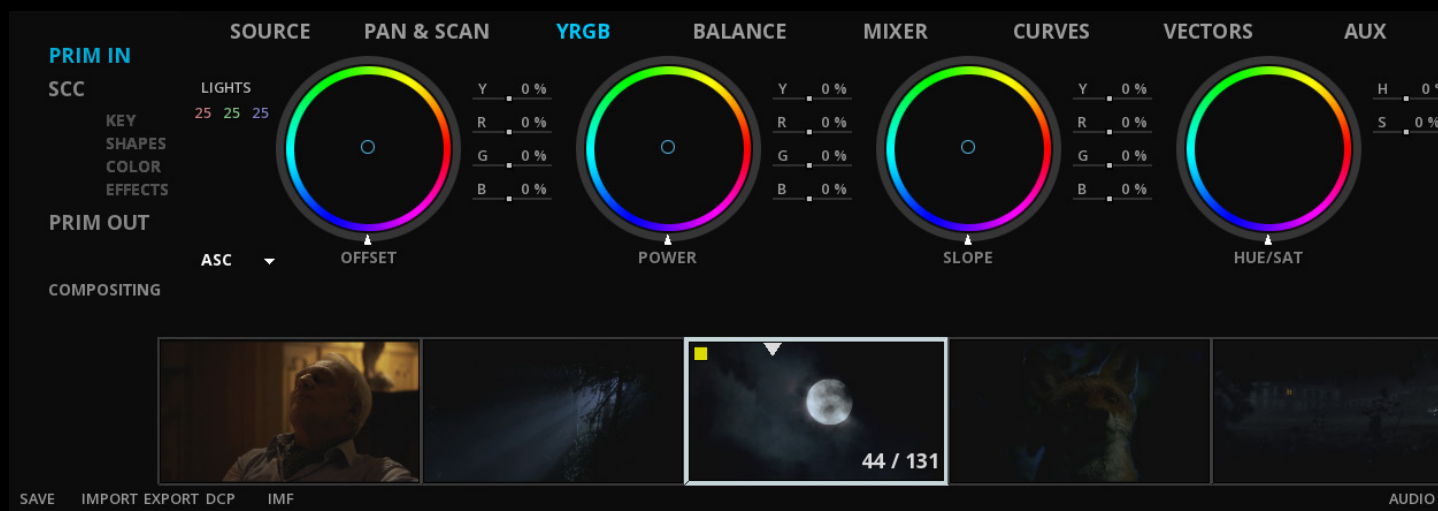


COLOR GRADING

MIST offers a full set of color grading tools. They are necessary not only when creating dailies, but also at the mastering stage, when the color space transformation requires manual adjustments, or when creating a SDR version from an HDR master.

Interoperable decisions

Different color modes are available: grades can be done in Film mode (brightness, contrast, gain controls), in video mode (lift, gamma, gain controls), and also in ASC CDL for exchanging the color decisions, a key element when working with ACES workflows.



Extensive grading set

Secondary color corrections with keyer and shapes are part of the grading toolset, as well as a grade library to store and retrieve the looks. A compositing mode allows to overlay image or logo using full blending mode options.

Efficiency for dailies

Simultaneous de-Bayer and playback of RAW footage in real-time, in 2D and Stereo3D, at the camera's native resolution, is also done in the Grade module. Tools for modifying the de-Bayering options are included, together with on-the-fly resizing (pan&scan, aspect ratio) and down-sampling. RAW support includes ARRI, SONY, RED, CANON, Phantom, DNG...

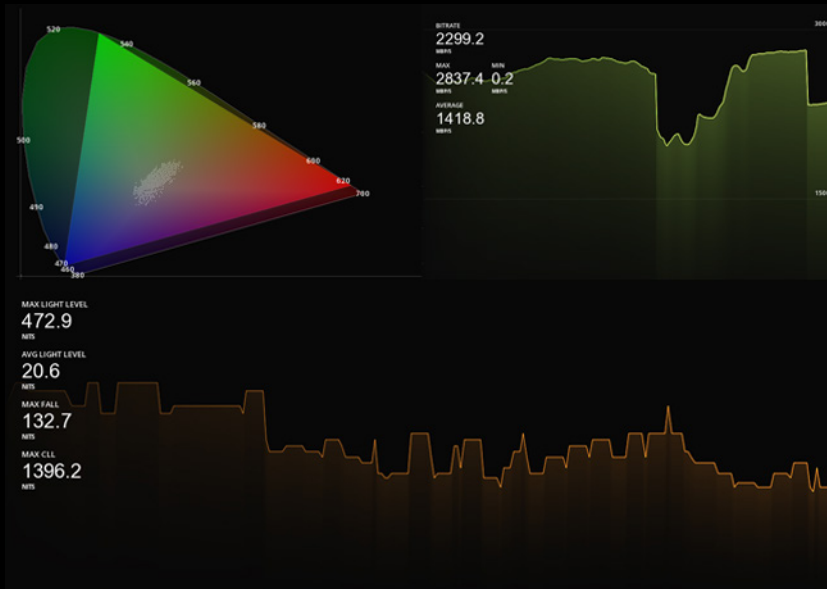


IMAGE CONTROL TOOLS

Many analysis tools are available for monitoring the quality of the image. Traditional Histograms, Vectorscope and Waveform with PQ & HLG mode are available, but also a CIE chromaticity diagram that gives indications of how the color is distributed within the boundaries of the color space.

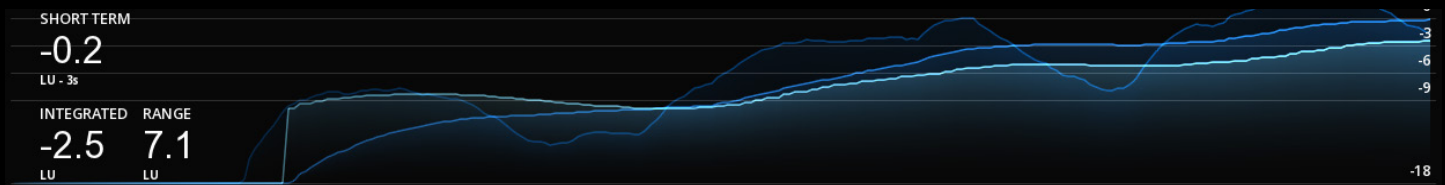
Encoding bitrate can also be controlled to verify the compression's consistency.

Video Pipeline Active Diagram

This module gives instantaneous feedback on the modifications applied on a source content: color space or resolution changes, video output information, and also specific devices connected like the Dolby Vision CMU are displayed in real-time.

Control of the Mastering Display

MIST has the unique capacity to remote control the Mastering Display device and automatically sets the monitor according to the color space, EOTF and luminance levels information enclosed in the media or set by the user (ST-2086 Mastering Display Color Volume Metadata), giving the operator full confidence in the image displayed. This feature is currently available with Canon, TVLogic and Eizo 4K HDR monitors.



AUDIO MONITORING

Numerous tools are available in MIST to create a master with the most accurate audio. Audio sync can be done manually or automatically (clap), and controlled immediately thanks to the SDI output capabilities. A channel matrix is available for mixing the tracks, together with a down mix feature from 7.1 and 5.1 to stereo for monitoring purpose.

Loudness measurement

EBU R128 Loudness recommendation can be monitored to make sure the master will be compliant for a broadcast delivery. VU-Meter, Sample Peak and True Peak controls are available for the channels inspection, a Surround Scope (a.k.a Jellyfish display) and a Phase Correlation Meter complete the audio metrics toolset.

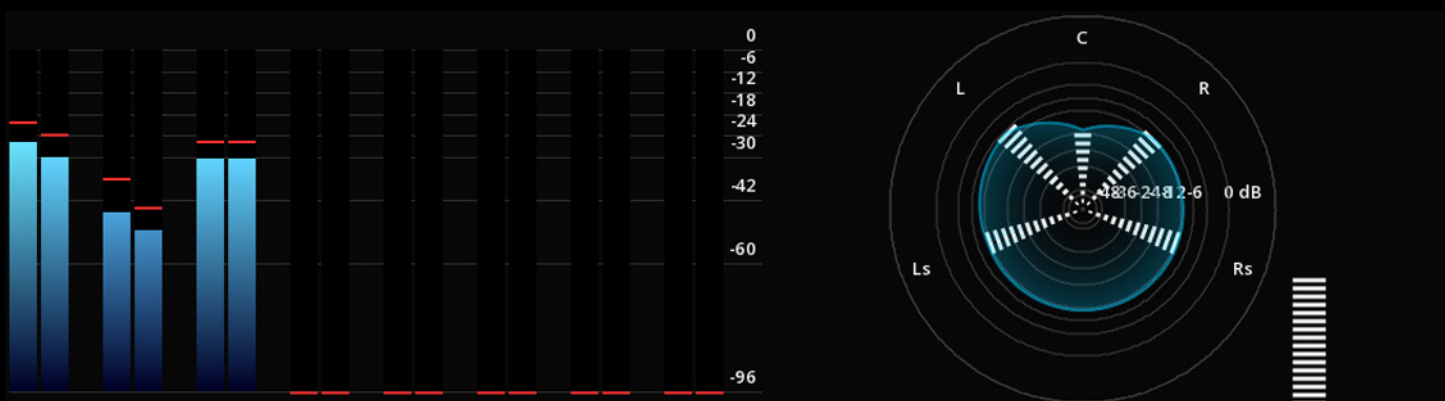
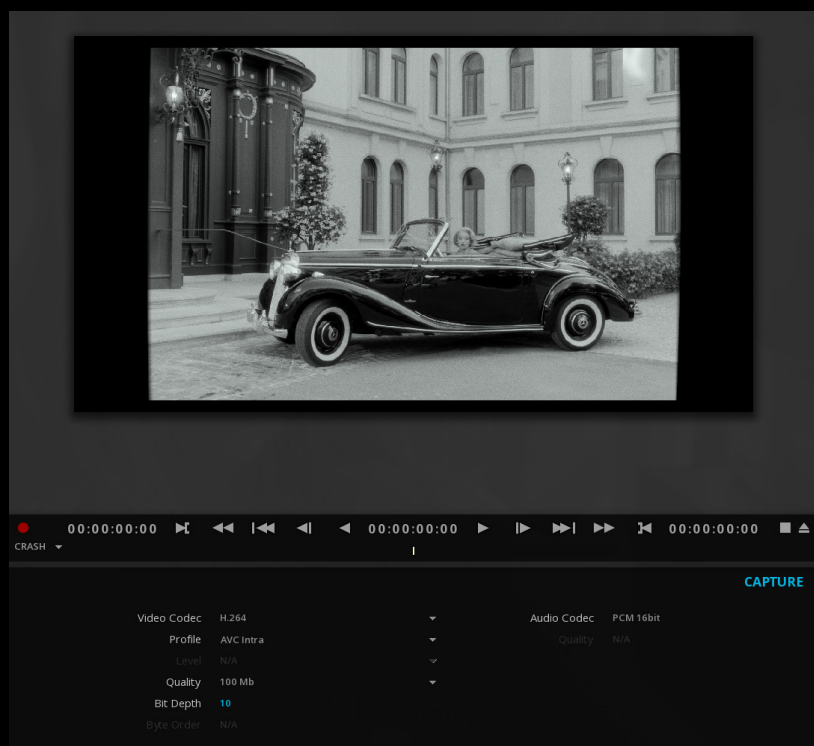
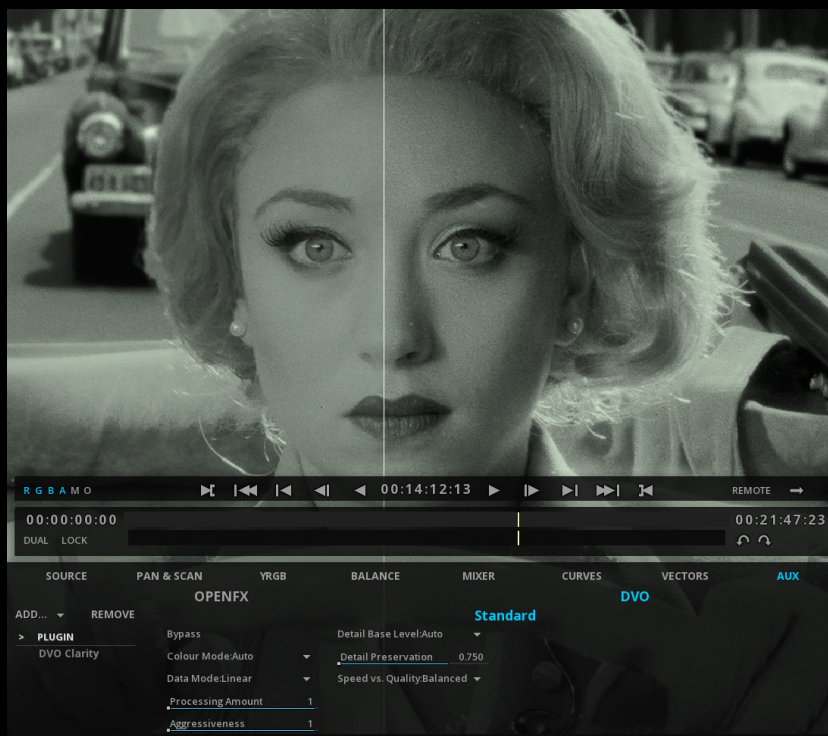


IMAGE ENHANCEMENT

MIST supports openFX plugins for adding effects on the image. In addition the complete DVO offer from Digital Vision is available within MIST for image restoration purposes.

DVO Mastering

This package has been specifically created for Marquise Technologies to offer in one package the necessary tools when repurposing and mastering legacy content: de-interlacing, upscaling, video noise reduction, frame rate conversion are some of the abilities of this mastering feature-set.



CAPTURE MODE

MIST can be used to digitize tape-based material via the capture tool. The video stream can be ingested using a variety of codecs and formats ranging from uncompressed image sequences to mezzanine formats, including JPEG2000 up to 4K YUV 30 FPS.

Slave Mode

MIST equally supports the RS-422 Sony 9-pin protocol in «slave mode». This allows other devices such as NLEs and DAWs to control MIST like a virtual VTR.

CONFORMING TOOLS

MIST is the perfect link from the editing systems to the rest of the post-production workflow. Conforming is accessible from an EDL, a FCP xml file or from an Avid AAF file.

In order to retrieve all type of content, MIST provides tags and renaming capabilities.

DIGITAL CINEMA MASTERING

MIST creates state-of-the-art Digital Cinema Packages in a "what you see in what you get" paradigm: all the assets (images, subtitles and sound) can be previewed at full resolution and natively. A simple drag & drop in the timeline of the content is the first step.

Mix resolutions & file formats, prepare 2D or Stereo3D projects or versions, monitor directly the image during preparation on a 4K DCI projector with XYZ DCI output support.

Security

MIST fully integrates NexGuard solution, offering watermarking for RGB 4:4:4 content and also the liaison with NexGuard's Manager.

KDMs Management

DCPs can be encrypted, and the management of the DKDM is done through KEYMaster, the cloud-based platform for KDM deliveries. MIST customers have a free access to KEYMaster, in order to manage the DKDMs independently from the project mastering.

Export Digital Cinema Package

Export a complete or differential DCI package

GENERAL

VIDEO

AUDIO

TIMED TEXT

COMPOSITION PLAYLIST

RATINGS

PACKING

ASSET MAP

SECURITY

NAMING

OUTPUT

Input Color Space

Input Gamma

Custom LUT

Screen Luminance

Peak Luminance

Output Color Space

Output Gamma

CAM

Codec

Profile

Color Sampling

Bit Rate

Engine

Max Threads

ITU-R BT.2020

GAMMA2.20

Display

cd/m²108

cd/m²108

Dolby Cinema DCI

GAMMA2.60

CIECAM97s

JPEG 2000

Digital Cinema

4:2:2 4:2:0

BPS250

CPU GPU

THREADS8

Flexibility

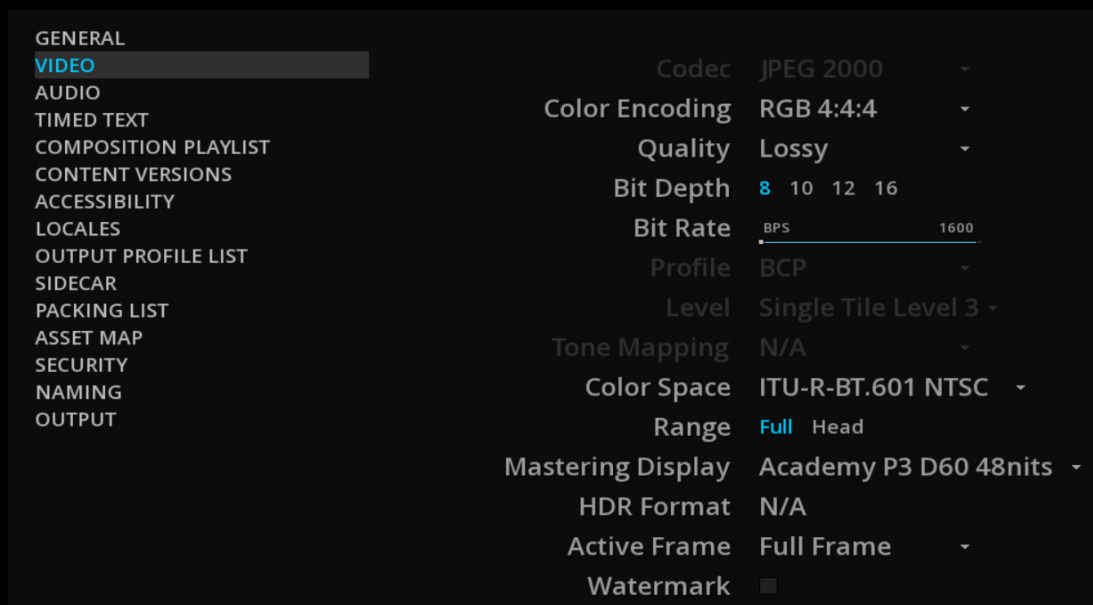
- DCP from any source : native support of DPX, TIFF, TARGA, JPEG, PNG, JPEG2000, MXF DNxHD, MXF IMX & MPEG2 (SONY XDCAM), QuickTime, RAW (Alexa, Sony F65, etc...)
- Color Space Chromatic Adaptation for a perfect DCI XYZ transformation (6 models available)
- HFR and AFR (Archival Frame Rate) support
- DCP from ACES
- Support for Dolby Cinema
- Support for Eclair Color
- Support for Dolby Atmos
- Support for DTS:X audio
- Multiple packages handling
- Repackaging and versioning of existing DCP, including JPGK2 and MPEG2 Interop into SMPTE standard (SMPTE phase 1 in 24/48 or 25/50 FPS)
- Extraction of DCDM from existing DCP
- Choice to burn the subtitles or the close caption in the image or to export them in the DCP package. Subtitles support allows import & export, 24/25 management and includes XML InterOp (Texas Instruments CineCanvas) and XML SMPTE (D-Cinema SMPTE 428-7)
- Asset inspector and Validation tests with PDF reports
- DCP real-time playback at 2K or 4K, included encrypted DCP

IMF MASTERING

MIST is at the forefront of IMF Mastering. Since the first release of the standard, it has always provided the most extensive toolset for creating these master packages, popularized by studios and premium OTTs. Latest HDR specifications as well as OPLs (Output Profile Lists) are already implemented.

Soundfield Management

MIST recognizes the type of soundfields present on the TimeLine and they are automatically displayed in the IMF Export module. Soundfields can be re-ordered, renamed, and channels re-assigned in order to meet with the delivery specifications.



Flexibility & Efficiency

- Presets with IMF delivery specifications for Netflix, Disney, Fox, Warner, Sony...
- Support for supplemental packages
- Merge or split of packages
- Transwrap between applications
- Support for multiple packing lists
- Support of sequences within segments
- Support for descriptive metadata
- IMF creation directly from an ACES source media
- Support for HDR content
- Timed text support includes TTML IMSC 1.0, comments, Hearing Impaired captions and Visually Impaired Text
- Import & direct playback of IMF packages up to 4K UHDTV in real-time
- Creation of Output Profile List (OPLs) using the FlowGraph rendering module

Accessibility

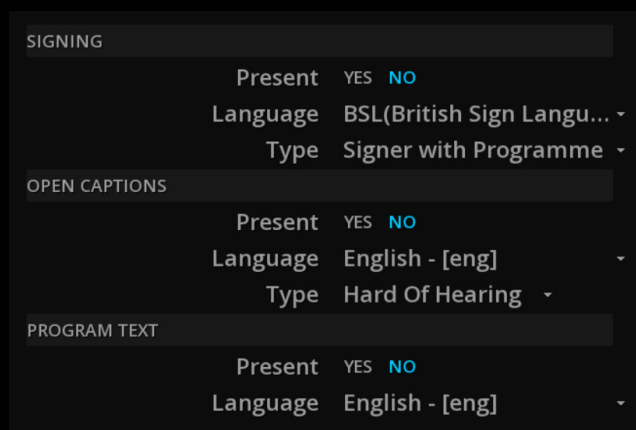
MIST supports a variety of accessibility and personalisation settings to be embedded in the IMF metadata

Supported IMF Applications

- Application 2, 2e (Studio Profile)
- Application 4 (Cinema Mezzanine)
- Application 5 (ACES) and Academy Digital Source Master
- IMF RDD45
- TSP.2121 Application DPP

Supported JPEG 2000 profiles

- Broadcast profiles, up to BPC L7
- IMF profiles, up to 16 bit



Extensive IMF metadata support

MIST supports intrinsic and extrinsic metadata for IMF content.

Markers are used to locate a specific moment in the content, like the first title frame, or the last image before end credits. They are also used to create custom markers like the possibility to add a commercial break. MIST can navigate easily from marker to marker for control.

Version #2	
ID	urn:eidr:10.5240/4764-ED1...
Label	EIDR Blacklist EP202 Engli...

EIDR / ISAN

External references, like the link to the EIDR page or any company private codification can also be added in an IMF CPL.

Sidecar Support

Sidecars are a separated files containing any type of information that are related to the content. They can be added in the package as well. It could be QC reports in PDF, XML files or images, according to the needs.

MIST also implements customs metadata required for certain delivery specifications (currently those for France TV, SONY or AS-11 DPP).

Control

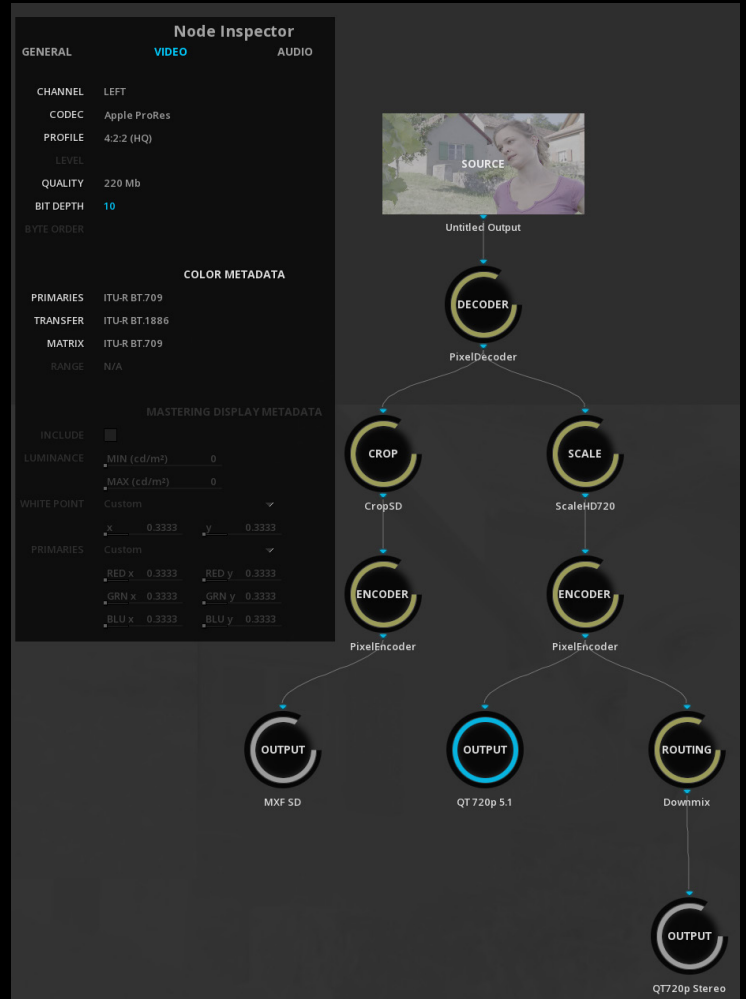
Once the IMF has been created, control can be done using the Asset Inspector and a variety of validation tests are available for checking the compliancy with the application chosen. In addition, Photon IMF validation tool has been integrated in MIST interface for insuring successful Netflix deliveries.

		+	-						
NAME	IN	OUT	DURATION	>TYPE					
■ Marker	00:00:12:07	00:00:12:08	00:00:00:01	FFCL					
■ Marker	00:00:16:04	00:00:16:05	00:00:00:01	LFCL					
■ Marker	00:00:22:04	00:00:22:05	00:00:00:01	FFTC					
■ Marker	00:01:03:04	00:01:03:05	00:00:00:01	LFTC					
■ Marker	00:19:34:05	00:19:34:06	00:00:00:01	FFEC					
■ Marker	00:21:35:16	00:21:35:17	00:00:00:01	LFEC					

Output Profile Lists (OPL)

MIST already supports the OPLs, which can be seen as recipes to create a new version from a specific CPL.

OPLs usually contain technical instructions and contains standardized macros, like the Audio Routing and Mixing Macro or the Image Macros to modify the resolution of the color space.



FOR BROADCAST & ONLINE CONTENT PROVIDERS

MIST allows users to play, master, transcode, convert and control all the file formats requested today by broadcasters and OTT content providers, including their particular delivery specifications.

dpp[®]

MEMBER

With full compliance and interoperability with industry standards and recommendations (AMWA, DPP, EBU, NABA and SMPTE), MIST supported formats includes:

- AS-11, including DPP AS-11 X / AS-10 AMWA / AS-02 packages
- SONY XDCAM deliverables
- Support for H264 and H265 codecs in read and write
- Support for MKV container (YouTube)
- Packaging for iTunes deliveries
- Support for CEA-608 and CEA-708 closed captions
- Support for BDN Subtitles (Blu-ray authoring)

UNLIMITED DELIVERIES

Unified Master Delivery

The Unified Master Delivery (UMD) is a dedicated interface allowing the creation of multiple types of deliverable requiring specific packaging and metadata in an automated way. Folders' organisation and naming convention are automatically created according to studios' delivery specifications.

The UMD also permits the versioning of content without re-encoding the assets.

Packages available in the UMD include today Apple iTunes, AS02/AS10/AS11-DPP, MXF J2K op1a Fox/HBO, Disney & Netflix DSM and Fox ISR & ISM and Degeto.

Background Rendering

Background rendering is available for MIST, as well as the ability to deport the rendering on another system.

Rendering Flowgraph

MIST manages the simple outputs formats the Rendering Flowgraph.

Renders are built in parallel, and from each source (the content on the timeline), an infinity of versions can be created on-the-fly or using rendering templates: codec, resizing, color space conversion, subtitles, soundfields, image range or overlays are part of the rendering settings.

Unified Master Delivery

Export Apple iTunes Package

FORMATS TEMPLATES

Apple iTunes Package

GENERAL

VIDEO

AUDIO

TIMED TEXT

REGIONS

GENRES

RATINGS

CAST

CREW

CHAPTERS

PRODUCTS

OUTPUT

Type Film

Sub Type Feature

Provider ENTER PROVIDER ID

Language English

Vendor Offer Code ENTER VENDOR VENDOR OFFER CO

Vendor ID marquisetech

ISAN ENTER ISAN CODE

EIDR ENTER EIDR CODE

Universal Product Code ENTER UNIVERSAL PRODUCT CODE

Country Of Origin Switzerland

Original Spoken Locale English

Title MyMovie

Studio Release Title ENTER STUDIO RELEASE TITLE

Synopsis ENTER SYNOPSIS

Production Company ENTER PRODUCTION COMPANY

Copyright Notice ENTER COPYRIGHT NOTICE

Theatrical Release Date 23 Aug 2017

HARDWARE INTEGRATION

MIST runs on certified hardware components, chosen for their excellence in the industry.

System

- Lenovo P910 and P920
- HP Z840 and Z8
- Windows 10

GPU

- NVIDIA Quadro

Video IO

- AJA Kona4
- Bluefish444 Kronos

HDR MASTERING

MIST offers extended HDR Mastering features, allowing the operator to have full confidence in what he sees and what he needs to deliver in HDR.

Extended HDR Mastering Features

- Support for full ITU BT2100 workflows: Dolby Vision, HDR10, HDR10+ and HLG
- On-the-fly cross conversions between the standards
- Up and down conversions (SDR <-> HDR)
- Subtitles color space & brightness management
- Secondary corrections for the luminance



Dolby Vision full support

- Support for Content Mapping v2.9 and v4 (beta)
- Support for iCMU and eCMU
- DoVi packaging into IMF or as a side-car (iTunes packages)
- Edition of DoVi metadata

**MIST IS A CERTIFIED
DOLBY VISION
SOLUTION
FOR EDITORIAL
AND QC**



HDR Monitoring

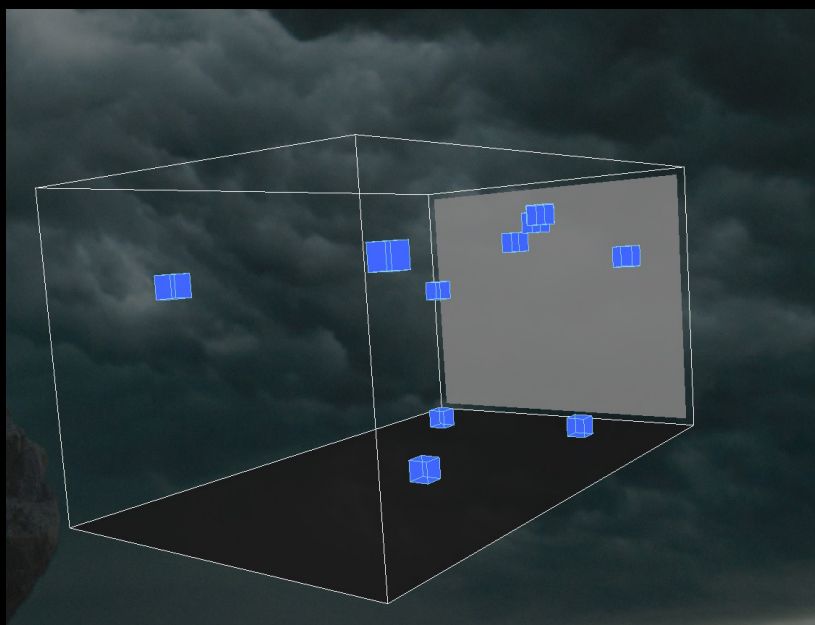
- HDR analysis tool to measure MaxFALL and the MaxCLL, Gammut and frame average PQ statistics.
- DMCVT Metadata Inspector to verify Dynamic metadata
- Scopes with HDR mode, displaying Nits values
- Export of HDR analysis in PDF and XML
- Out of Luminance control in Zebra mode

IMMERSIVE AUDIO

MIST offers the most advanced support for Dolby Atmos technology:

- Playback from a DAMF, a BWF ADM or an IAB using the Dolby Atmos Renderer
- Export of Atmos in an IMF App2e and TSP 2121 (IAB)
- Export of Atmos for iTunes (BWF ADM)
- Export of a downmix of the Atmos file into our supported deliverables

Users also have the ability to review and QC the immersive audio objects using the new audio scope mode for a real-time 3D visualization of the objects positions in the room.



MARQUISE
TECHNOLOGIES

Chemin du Ruttet 5
1196 Gland - Switzerland

www.marquise-tech.com