AJA Diskover Media Edition



AJA Diskover Media Edition

Plugins Operation Guide



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FAX	+1.530.271.3140
Web	https://www.aja.com
Support Email	support@aja.com
Sales Email	sales@aja.com

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Chapter 1 – Introduction

NOTE: This guide is intended for daily operations by the Line of Business Users.

An unparalleled data management and curation solution, AJA Diskover Media Edition consolidates in a global index, unstructured data spread across heterogeneous repositories including direct attached storage, cloud, AWS buckets and more. Cutting-edge analytical tools combined with uniquely fast search capabilities empower all levels of an organization to have their own relationship with data, resulting in informed decision making, significant operating cost reductions, along with enhanced workflows and their monetization.

Installation and Configuration

Although AJA Diskover Media Edition is intuitive and easy to use by any Line of Business Users, its installation and configuration must be accomplished by a System Administrator or someone with equivalent expertise.

Documentation

This document is intended as a supplemental user guide explaining the unique and powerful features and plug-ins that are available with AJA Diskover Media Edition Software.

For more detailed and frequently updated documentation including technical guides and user guides, please visit:

https://docs.diskoverdata.com

Data Curation

Data curation is the practice of managing data collected from various sources as a valuable asset to unlock its potential, organization and cost analysis decision making. Managing data effectively requires having a data strategy and reliable methods to access, integrate, cleanse, govern, store, archive, mark for deletion and prepare data for analytics. The value of the data is maintained over time and remains available for reuse and preservation.

Software Overview

The Basics of AJA Diskover Media Edition

- Efficiently and quickly searches data fragmented across heterogeneous repositories bringing you all the answers in one global view.
- Works with Elasticsearch, giving you extraordinary speed and reliability, as well as continuously updating all your indices in parallel in real-time.
- Provides a global index in non-proprietary format, enabling organizations to maintain data independence of their index.
- Well suited for long term asset preservation.

- 100% open-source tool allows for add-on plug-ins to be developed alongside plug-ins unique to the media industry that are included as part of AJA Diskover Media Edition
- · Supports all known file types.

How AJA Diskover Media Edition is Unique

- AJA Diskover Media Edition scales data by using Elasticsearch search engine in the back-end, allowing for massive amounts of data to be searched instantaneously.
- AJA Diskover Media Edition is the only data management software in the industry able to rapidly scan and index all of your storage volumes at the same time, regardless of where they are located.
- AJA Diskover Media Edition-Web's global index offers the ability to be fully cloud-based, meaning that all storage volumes can be indexed all at the same time and in the cloud, instead of each storage volume being indexed, separately and sometimes serially, in their own location.
- Points in time indices snapshots, allowing the ability to search and compare indexed data, as well as analyze anomalies.
- The powerful heatmap report is unique to AJA Diskover Media Edition and allows for at-a-glance comparisons between two points in time on any scanned indices.

In addition to Diskover's core features, the AJA Diskover Media Edition offers distinctive features developed for the Media and Entertainment industry. The bridge between AJA Video Systems products and Diskover Data software offers cutting-edge tools to handle media assets.

Both entities combined their extended expertise of the Media and Entertainment industry to develop and plan future features undoubtedly lacking for efficient file-based production line, as well as asset monetization and preservation.

Improves Workflow and Reduces Operating Costs

- Harvests metadata to add business context to extensive searches and analytics.
- Enables everyone to accurately answer questions with the simplicity of clever search queries, which provide immediate relevant information.
- Enhances collective efficiency by streamlining file-based workflows.
- Assists all stakeholders in making the right data related decisions about time, resources, and investments.
- Significantly improves the efficiency of the organization and its people, in addition to reducing storage cost.

Figure 1. AJA Diskover Media Edition Connects Your Unstructured Data

Diskover Connects Your Unstructured Data



- Diskover "connects" all your different storage repositories.
- You can search and find any files, through their metadata, no matter where your files are located.
- From one single view.
- From any web browser.

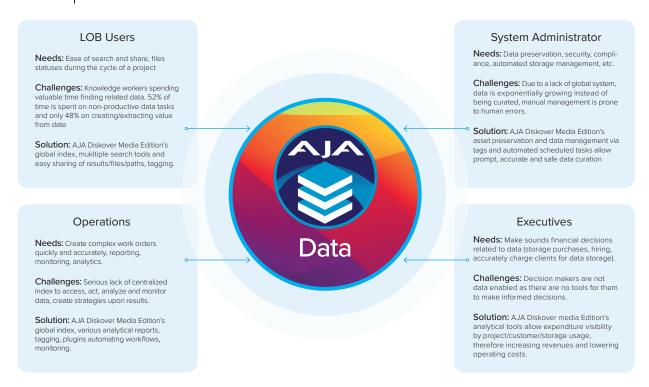
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Consumers of Data

AJA Diskover Media Edition allows all stakeholders within an organization to have their own specific relationship with data. Here is a generic example of Line of Business Users, their needs, and challenges:

Figure 2. Consumers of Data

AJA Diskover Media Edition



Consumers of Data



Access to Features

Even though several data features will be added over time, AJA Diskover Media Edition will mostly remain a search and read-only tool for the end-users; data integrity and protection being the ultimate objective.

AJA Diskover Media Edition allows all end-users to have access to the data via a global index in a read-only format, for them to make informed decisions, and then in turn for the System Administrators to curate the data in a secure and controlled environment.

Your System Administrator creates all login accounts. Depending on your data relation needs within your scope of work, your account level will be as an enduser or an admin, the latter allowing for additional editing access (reports, etc.). While working with AJA Diskover Media Edition as an end-user, you might come across the icon below, indicating that you need to communicate any requests with someone with an admin level account.

Admin user required

Here is a brief list of shared roles:

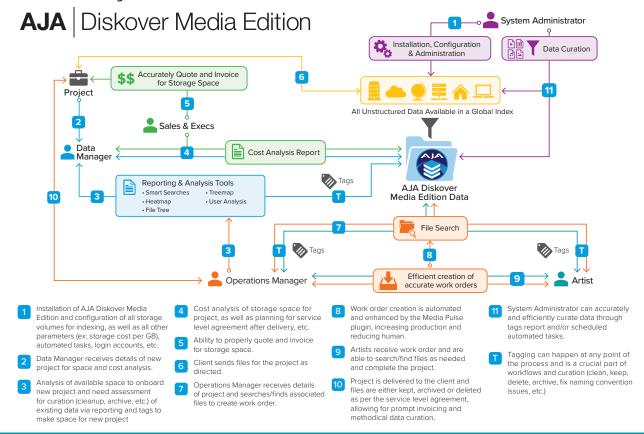
Feature	End-User Account	Admin Account	System Administrator
File search	Yes	Yes	Yes
Use of analytical reports	Yes	Yes	Yes
Analytical reports editing		Yes	Yes
Export/share search results	Yes	Yes	Yes
Manual tagging	Yes	Yes	Yes
Tags editing		Yes	Yes
Auto-tagging			Yes
Basic settings editing	Yes	Yes	Yes
Advanced settings editing (add fields, etc.)		Yes	Yes
Select, compare, analyze indices	Yes	Yes	Yes
Schedule background tasks		Yes	Yes
Data curation (move, delete, archive, etc.)			Yes
Diskover install, config & main admin			Yes

Use Cases

With media workflows, there is the need to protect content from piracy; facilities often build two completely independent networks 1) where users have access to the Internet, and 2) a production network with no Internet access and strict controls on personnel that have access to this network. However, in production workflows, Customer Service Representatives, Producers, and Operations often need to search the production network. AJA Diskover Media Edition provides visibility to search for content, without providing access to the actual content.

AJA Diskover Media Edition offers numerous search tools, reports, and other functions to fulfill the needs of all stakeholders. Below is a simplistic example of AJA Diskover Media Edition's tools being used in a media environment:

Figure 3. AJA Diskover Media Edition's Toolkit Overview



AJA Diskover Media Edition: Tools and Workflow Overview



Chapter 2 – Media Specific Challenges and Solutions

This chapter describes the prominent challenges that most Media and Entertainment facilities are currently facing.

Lack of Files Visibility

The lack of visibility and access to files' location and metadata is a real problem for end-users in media facilities, mostly due to the protected production network, as security is paramount because of piracy concerns and possible leaks to the public prior to release dates.

Challenges	Solutions
There is a difficult to non-existing balance between allowing people to do their jobs while keeping the appropriate level of security around clients' file.	Diskover gives read-only access to the files' metadata and attributes therefore safeguarding your valuable assets while allowing employees to efficiently find the files they need.
Difficulty finding disorganized assets from different sources (ex: intra and inter companies' systems).	Diskover scans all fragmented data living across heterogeneous repositories and brings all the information in one global index.
Users need to be notified when files are available and where they are located.	Diskover offers extraordinary speed and reliability with Elasticsearch in the back-end continuously indexing all storage volumes in parallel for instant findability.
Too many search results due to the inability to refine searches.	Diskover includes many search tools and filters, as well as granular search on media specific attributes (ex: resolution, codec, duration, etc.)
Unable to verify if the file found/ needed is the right one.	Diskover's media info plugin enriches the ability to locate the correct file. Future thumbnail/preview plugin functionality will further increase accuracy.

Inefficient Workflows

Tremendous amounts of person-hours are wasted due to a lack of continuity and automation around file-based production lines.

Challenges	Solutions
Need to track orders through the production process, from order creation to invoicing and delivery.	Diskover order management and scheduling plugins reduce or eliminate manual correlations and provide automation and scaling capabilities. One example of such plugin is Xytech MediaPulse.

Challenges	Solutions
Order system is usually not an integral part of the storage infrastructure, affecting the ability to charge accurately for storage per specific project.	The cost analysis tool within Diskover provides the ability to associate a storage element to the cost of goods sold to a project, client, work order, etc.
The inability to identify files that need to be managed at the source.	Diskover's manual tagging and automated scheduled tasks insure for safe and methodical file management, as well as file findability.

Fast Pace Environments

Significant increase of order volume is compounded with shorter deadlines.

Challenges	Solutions
Manual orders are prone to errors and don't scale with today's high volume.	Diskover's global view and accuracy combined with order management and scheduling plugins allow for reduced human prone errors associated with manual processes, as well as increased automation and scalability of production processes associated with file-based workflows.

Chapter 3 – Media Edition Plugins Overview

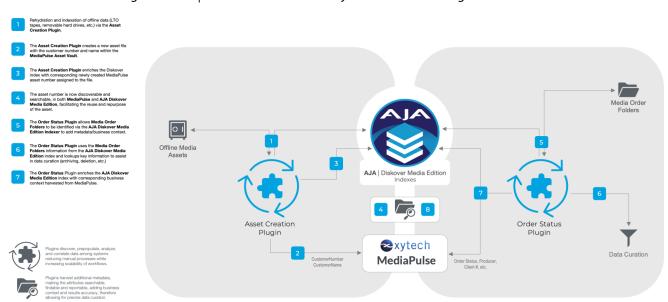
The following diagrams illustrate the functionality of the features included with AJA Diskover Media Edition. More plugins and features will be added over time.

Figure 4. AJA | Diskover Media Edition: Media Files Plugins Overview



AJA | Diskover Media Edition: Media Files Plugins Overview

Figure 5. AJA | Diskover Media Edition: Xytech MediaPulse Plugins Overview

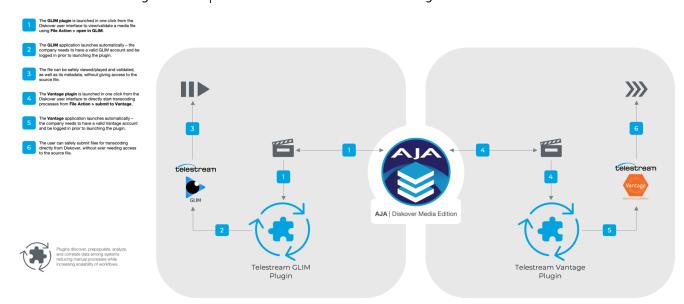


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AJA | Diskover Media Edition: Xytech MediaPulse Plugins Overview

Figure 6. AJA | Diskover Media Edition: Telestream Plugins Overview



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AJA | Diskover Media Edition: Telestream Plugins Overview

Chapter 4 – Media Attributes

Media attributes, like file resolution, codec, etc., are harvested during indexing and are therefore available to enhance in-depth searches and to deliver accurate results.

Hide/Unhide Media Info Column in Search Results Pane

When using the file search page, you have access to a column with all the media attributes. If you cannot see that column, it means that it is hidden. To unhide that column:

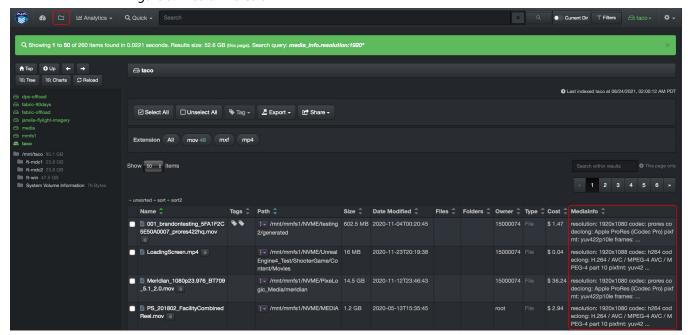
- 1. Go to Settings > Hide fields in search results.
- 2. De-select the box in front of **media info**.

Figure 7. Hide fields in search results



The **media_info** column will then be available within the search results pane. If the column is visible but there are no attributes for a file, this means that there was no media metadata associated with the source file to begin with.

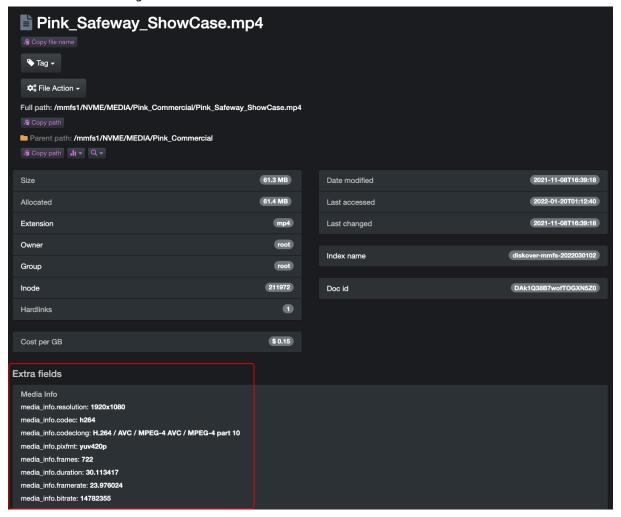
Figure 8. Media Info Column



View Detailed Media Attributes

Below is an example of the location where you can see detailed media attributes. You can access this page by clicking on a file in the search results pane or wherever you see the magnifying glass icon:

Figure 9. Detailed Media Attributes



Search on Media Attributes

The media attributes are part of the metadata harvested exclusively by the AJA Diskover Media Edition. If a file at the source doesn't include any of these attributes, it goes without saying that no details will be harvested and/or be available.

In addition to the <u>manual file searches and syntax explained in the Diskover</u> <u>User Guide</u>, the AJA Diskover Media Edition allows end-users to search on media specific attributes.

- As media fields' info can be complex, unless you know exactly what you
 are looking for, we strongly recommend using the <u>* wild card</u> for ease of
 searching and to expand your results.
- The fields described below are meant to be copied/typed in the search bar of the Diskover user interface.
- · Searching on media_info is case insensitive.

- The following syntax needs to be respected media_info.<key>:<value> and the < > are not meant to by typed, they are only for visual and isolating where to input the variables:
- For more details on search syntax, please refer to our core <u>Diskover User</u> Guide.

File resolution

Field name: media_info.resolution

```
media_info.resolution:3840x2160
media info.resolution:*1080*
```

(Would return all files with 1080 somewhere in the resolution)

Codec

Field name: media_info.codec

```
media_info.codec:prores
media_info.codec:h264
```

Codec long

Field name: media_info.codeclong

```
media_info.codeclong:*apple*
media_info.codeclong:*quicktime*
```

Pixel format

Field name: media_info.pixfmt

```
media_info.pixfmt:*yuv*
media_info.pixfmt:*422*
```

Frames

Field name: media_info.frames

```
media_info.frames:30
media info.frames:*30*
```

NOTE: Use a specific number only if you know the exact number of frames a file would have, otherwise use the * to expand your results.

Duration

Field name: media_info.pixfmt

NOTE: This field will eventually reads time in this format **hh:mm:ss**, but is currently showing duration in seconds, ex: 30.5071 = 30 seconds and 5071 milliseconds)

```
media info.duration:30.*
```

NOTE: Use the * if you're looking for a file for which you know the duration is 30 seconds but the milliseconds are unknown.

Framerate

Field name: media_info.framerate

media_info.framerate:*23*

NOTE: Would return all files with standard framerate of 23.976

Bitrate

Field name: media_info.bitrate

media info.bitrate: *765*

NOTE: Bitrate is a difficult field to search on, but not impossible.

Search on Media Info Fields with Operators

Operators **and**, **or**, **not** are explained in the <u>Diskover User Guide</u>, but here are a few query examples using media info fields with operators:

```
media_info.resolution:1920x1080 AND media_info.
codeclong:*quicktime*
```

Would find all files with resolution 1920x1080 with QuickTime in codeclong.

```
*jurassic* NOT media info.resolution:*1080*
```

Would find all files containing "jurassic" in the file name and/or path, but with any other resolution beside 1080 being part of that field.

```
media info.resolution:*1080* AND mov NOT mp4
```

Would find all files with 1080 being part of the resolution and with file extension .mov, but would exclude file extension .mp4 from the results.

```
media_info.pixfmt:*444* OR media_info.pixfmt:*422*
```

Would find all files with pixel format either containing 444 or 422.

Media Info Fields Containing Error or Warning

If the media fields at the source are corrupted and/or Diskover determines the file as "suspect", the media info fields will show either **error** or **warning** within Diskover. Below are search queries to either exclude or pinpoint files with those values:

To search all files with valid media info fields while excluding files with "error" and "warning":

```
media_info:* NOT (media_info.error:* OR media_info.
warning:*)
```

To search all files with media info fields containing "error" and "warning":

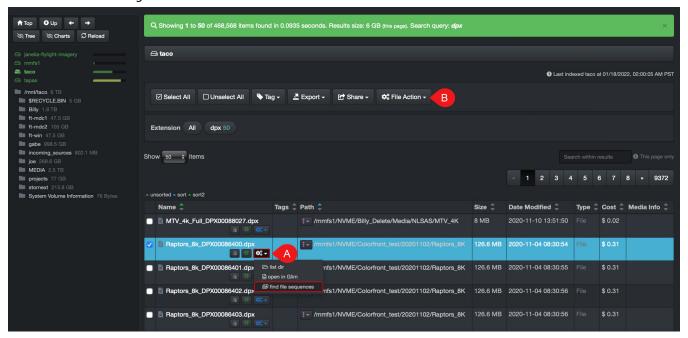
```
media_info.error:* OR media_info.warning:*
```

Chapter 5 – Find All Files in a Sequence

AJA Diskover Media Edition allows you to easily find all files in a sequence via File Action.

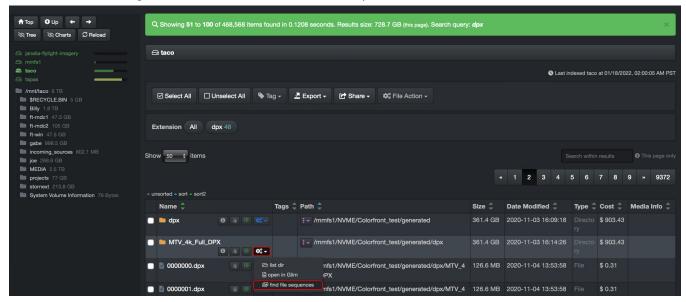
Launch from a file - You do not need to select the line if you launch directly from the A) inline icon. It has been selected in this example to show the option of launching it from the B) File Action button:

Figure 10. File Action Launch from File



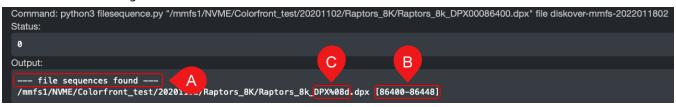
Launch from a directory - The same logic as launching form a file applies here as well:

Figure 11. File Action Launch from Directory



The results will open in a new page and will show the complete path where the sequence is located, as seen at the bottom of the following screenshot:

Figure 12. File Action Results



- A Will confirm if a sequence was found.
- **B** Will give you the sequence range. If there was a break in the sequence, there would be [multiple brackets].
- **C** In this example, the value means that the sequence has 0 padding and is 8 digits long, DPX being included in the digits > DPX86400.

Chapter 6 – Xytech MediaPulse Order Management

This chapter describes the features that are currently released enhancing file-based production workflows. Please stay tuned as many more features are in development and are on the roadmap.

More About the Xytech MediaPulse Product

Xytech MediaPulse Asset Creation

Post facilities often have customers' assets that have been archived and lack findability, visibility, searchability, and therefore the opaque nature of these assets make them difficult to reuse or repurpose. Companies with years of such archived assets have often stored these on tape media or removable hard drives which are often stored in a physical vault.

Assets were often stored on such "offline" media due to costs. However, with the advent of cloud and object storage, the economics are now making it viable to store such vaulted assets on more "online media". Although, simply putting these assets onto online media does not necessarily make these assets findable in context or within the facility's order management system.

The Xytech MediaPulse asset creation tool is designed to find and index newly restored online assets from LTO tapes, removable hard drives, etc., making them available, findable, and searchable within the Xytech MediaPulse order management system, as well as AJA Diskover Media Edition.

The plugin operates on the assumption that the assets restored to online media are placed into a folder with the following naming convention: **CustomerID**_

CustomerName

The path location is added to the asset within MediaPulse and the asset number is assigned to the file via a tag within the AJA Diskover Media Edition Index.

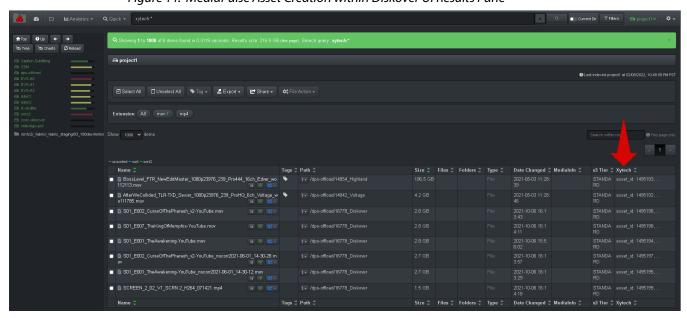
Here is an example of an asset rehydration as viewed in the MediaPulse application:

m Media Asset 1462450: Asset Titles 🐍 Segments Container Issue Management Identification Asset No: 1495193 Asset Type: File Disposition: In Active: 🗸 Asset Date: 08/31/21 Barcode: 1 Vault: Asset Note: Client Barcode: Alt b/c 1: Shelf: Alt b/c 2: Alt b/c 3: Moved To: Label: Alt b/c 4: Alt b/c 5: Current Location: Alert Note: Asset Desc: Container Barcode: Last Moved Date: Customer: 14854 · · · Cust Name blurred m Job No: Device QC: Multi-Title: ■ W/O No: Status Changed By: Container: Status Changed Date: Container Asset No: Retention (Days): Title: BossLevel_FTR_NewEditMaster_1080p23976_239_Pro444_16ch_Edver_wo112113.mov Client ID: Episode: 1 File Location File Attributes File Location Disposition: In Last Moved Date: m Storage System: Path: /dps-offload/14854 Highla ···

Figure 13. Example of an Asset Rehydration as Viewed in the MediaPulse Application

Here are the same values, customer ID and asset ID, displayed within AJA Diskover Media Edition:

Figure 14. MediaPulse Asset Creation within Diskover UI Results Pane



FileStorageSysFile:

BossLevel_FTR_NewEditMaster_1080p23976_239_Pro444_16ch_Edver_wo1
12113.mov
2 consists seed
10 12 de Addition | 10 12 de Additi

Figure 15. MediaPulse Asset Creation within Diskover UI File Attribute

Xytech MediaPulse Order Status

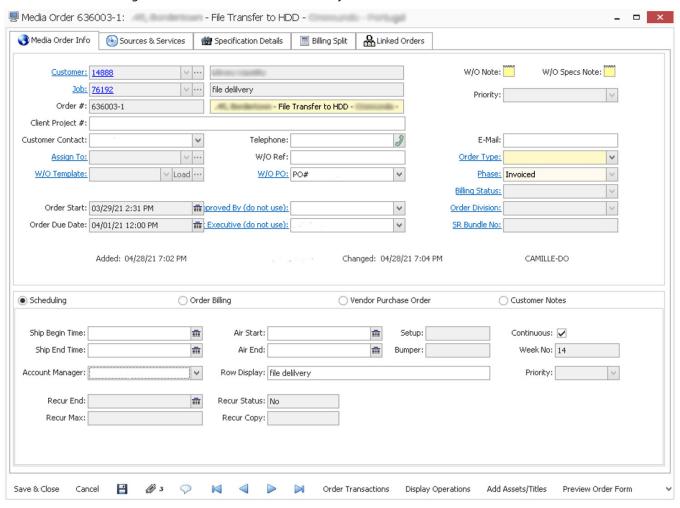
Facilities often manually correlate the order management system with the storage repositories. However, manual processes are subject to human error and are difficult to scale as the volume of media orders and data turnover increases rapidly and constantly.

Therefore, the lack of integration for file-based workflows between the order management system and the underlying storage repositories makes data management decisions difficult as they are solely based on attributes of files or objects on storage. Additional business context is needed from the order management system to increase precision and accuracy of data management decisions.

An instance of key information might be the invoice date for a work order. A status change for a work order can be a key indicator for data management. For example, once a Xytech MediaPulse media order has been invoiced, then the data associated with that media order can be a candidate for archival.

The MediaPulse order status plugin is designed to automate the correlation of the order management system and the storage system by harvesting key business context from MediaPulse and applying that context within the AJA Diskover Media Edition platform.

Figure 16. MediaPulse Order Status in Xytech



Chapter 7 – Telestream GLIM and Vantage Workflow Automation

The GLIM and Vantage web tools allow end-users to view and confirm source files, as well as submit files for transcoding, directly from AJA Diskover Media Edition, without ever leaving your web browser.

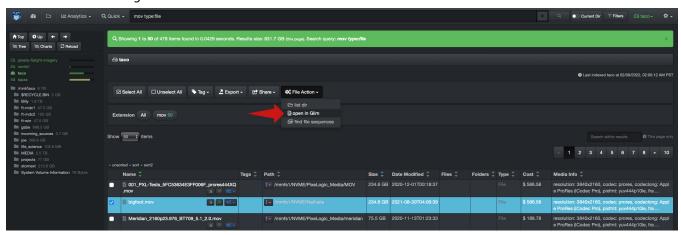
Preview/Validate Media Files with GLIM

You can do an advanced search/validation of a media file and playback right from AJA Diskover Media Edition.

NOTE: Make sure you are logged in your Telestream account before using this feature.

You can access **File Action > open in GLIM** by selecting a file and clicking the File Action button as shown below:

Figure 17. File Action GLIM Selection



Alternatively, beneath the gear icon on the line item that you want to preview with GLIM, select **open with Glim**.

Figure 18. File Action GLIM Gear Icon Selection



This will launch GLIM where you will be able to validate/preview the file.







Learn More about the Telestream GLIM Product

Submit Transcoding Jobs to Vantage Directly from Diskover

With the AJA Diskover Media Edition Telestream Vantage Plugin, you can submit files for transcoding directly from the AJA Diskover Media Edition user interface. This process can be utilized by all end-users without needing access to the production tools and source files.

The major benefits include the following:

- The plugin eliminates many steps from going back and forth between the two software tools.
- Vantage offers several transcoding options which can be confusing to nontechnical users. The plugin allows for limiting the number of options to only the ones relevant to the end-users.
- Creating a Vantage account for an end-user is intensive as it requires complex and time consuming configurations. Single end-user accounts for Vantage are not required with the plugin as all they need is access to AJA Diskover Media Edition.
- End-users with a Vantage account have access to your production network. The plugin keeps your network secure as the end-users only have access to read-only information via AJA Diskover Media Edition.
- Files are very easy to find within AJA Diskover Media Edition's global index compared to Vantage where one needs to know where to look.
- · The learning curve is quick and easy for new end-users.

Steps to Submit a File for Transcoding

- 1. Search for the desired file(s) within AJA Diskover Media Edition.
- Select the file you wish to submit for transcoding by clicking the File Action
 submit to Vantage icon (gears icon) in line with the file. If you wish to submit multiple files at a time, select the files by clicking the check box in front of the file, then select the File Action > submit to Vantage button.

Figure 20. Telestream Vantage Selection

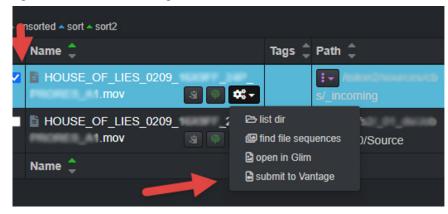
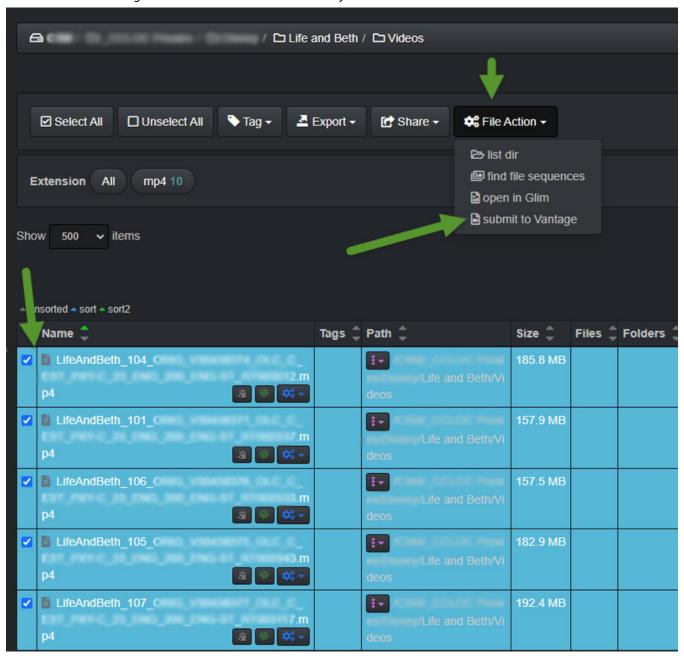
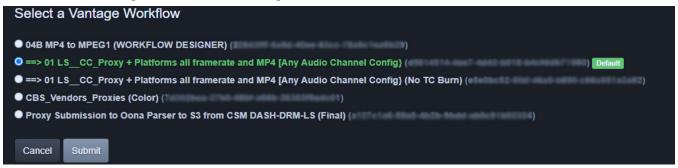


Figure 21. MediaPulse Order Status in Xytech



3. A window will open with a series of submission options. After clicking the **Submit** button, you will get a message that the file has been submitted to Vantage successfully.

Figure 22. Telestream Vantage Job Submission



4. If you have access to the **jobs submission status** view in Vantage (webpage location to be supplied by your system administrator), you will see the progress status of your request(s).

Figure 23. Telestream Vantage Job Processing Status

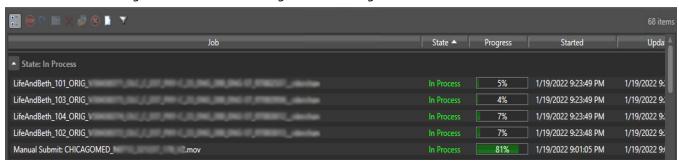
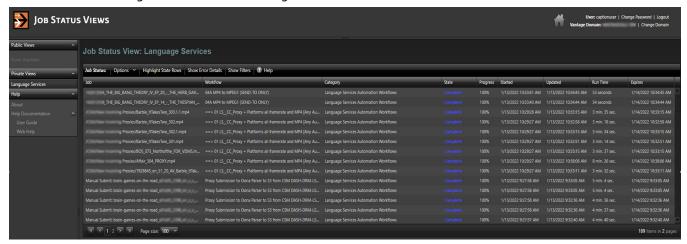


Figure 24. Telestream Vantage Job Status



Learn More about the Telestream Vantage Product.

Chapter 8 – Support and Warranty

Help within the Software

From the AJA Diskover Media Edition interface, you can find help with search syntax and other subjects under Settings (gear icon) > Help.

Documentation

Please see <u>Diskover Documentation</u> for in-depth instructions for end users, as well as for system administrators and technical professionals involved with installation and configuration tasks.

Troubleshooting

Please see the <u>Technical Troubleshooting Guide</u> for answers related to installation, configuration and more.

Please see the <u>End-User Troubleshooting Guide</u> for answers related to the daily operation of AJA Diskover Media Edition.

Email and Phone Support for Paid Subscription Solutions

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Technical Support and Resources

AJA Diskover Media Edition general Information:

www.aja.com/products/aja-diskover-media-edition

AJA Diskover Media Edition support, including documentation:

www.aja.com/products/aja-diskover-media-edition#support

The Diskover Slack workspace forum is also a great place to ask questions to the Diskover community:

https://diskoverworkspace.slack.com/ssb/redirect#/

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