

# Administrator's Guide - Score Digitization

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### Overview

Members of the Digitizers group digitize score pages, create encoded derivative files, generate metadata, and load it into Variations. To turn on the Digitizer interface (if authorized to do so) set the property `dml.login.digitizerMode` to true in the client's `dml.conf`. The filenames scheme used by Variations can be configured in `dmlserver.xml`.

### Digitization Specifications

- Scan all pages, including the covers and blank pages
- All pages should be the same dimensions
- Color is okay, even though Variations will currently display these in grayscale
- Grayscale Images:
  - Scanning:
    - Scan Type: 256 level gray
    - Page Size: Scanner's Maximum or Letter (depends on size of score and scanner)
    - DPI: 400 dpi
  - Saving:
    - File Type: TIFF (\*.tiff), 1 file per page
    - Color Format: 8 bit gray
    - Compression: None
  - Scanner Settings:
    - Mode: 256-level Gray
    - Dither: None
    - Dots per inch: 400 dpi
    - Contrast: Manual - starting point 172 (depends on quality of score, etc.)
    - Paper Source: Flatbed
    - Page Size: Scanner's Maximum or Letter (depends on size of score and scanner)
    - Page Layout: Portrait or Landscape
    - Area (X Position & Y Position): .06" (3/50")
    - Area (Width): = depends on score size
    - Area (Length): = depends on score size
- Color Images - same as above, except:
  - Scan Type: 24 bit color
  - Color Format: 24 bit
  - Brightness: (Adjust depending on the score)
- Cleaning in Photoshop:
  - Straighten image
  - Cropping and Centering - cropping the edges to clean scanning marks in the borders, etc. and to center the image for resizing purposes back to the original score dimensions
  - Cleaning - removal of any handwritten marks that were not able to be erased by hand on the physical score
- Embedded color profile:
  - Grayscale: Gray Gamma 2.2
  - Color: AdobeRGB1998
- LZW compression
- Resizing - Batch processing run through Photoshop Actions for resizing all images back to their original score dimensions

### Configuration

There are three options for server processing of incoming score images: minimal, djvu processing, and none. Minimal score processing will copy the files from the incoming directory to where Variations can use them and update necessary metadata. This approach requires the derivative files placed in the **incoming** directory to already be djvu files that can be opened in Variations. DjVu processing will convert the incoming tiff file to a pbm and then encode those to djvu files that are useable by Variations. This mode should be used if the DjVu Encoder described below is **not** used. Enabling djvu processing requires the `djvuProcessing` attribute be set to **true** in `dmlserver.xml`. If the DjvuProcessing tag is not present, then no processing will be done by the server (this approach is not supported for test sites). `outputDir`, an optional attribute, is the path to the directory where Variations will place the deliverable files. If an output directory is not specified, Variations will determine this location by looking at the filesystem usage statistics for each LeaseManager's ContentDir of a LeaseResource that matches the contentType "score".

### Example ScoreProcessing tag in dmlserver.xml

```
<ScoreProcessing incomingDir="/home/dmlserv/content/loader/score/incoming/" tempDir="/home/dmlserv/content/loader/score/temp/" djvuProcessing="false" />
```

The filename scheme used by Variations is specified through the **FilenameScheme** tag in **dmlserver.xml**. See [Filenaming Schemes](#) for more information on possible settings.

## DjVu Encoder

More information the standalone GUI encoder that uses DjVuLibre's djvu encoder can be found [here](#).

## Digitization Workflow

An overview of the entire digitization process can be found [here](#)