Use the Daktronics video converter program to create profiles to convert original file formats to H.264 MP4 or the HAP-encoded MOV format required for large display animations. Displays that are more than 2.5M pixels or wider than 3840 pixels are considered large displays. Daktronics recommends that the original files are in uncompressed AVI, MOV, or another low-compression intermediate format.

File Naming/Saving

If a file is converted to the same folder where the original file is located and uses the same extension, the new file will automatically append a date code to the file in the format YYYYMMDD. This ensures that the new file does not overwrite the original file. However, if the file is converted more than once on the same day, it will overwrite an earlier file with the same date code.

If you need to keep the file that was converted earlier, manually rename it before doing another conversion.

Content Striping

The DMP-8000 supports content striping that allows content to be striped into a frame size that is closer to a standard video format. Striping content into a more standard format allows the use of CODECs that do not work with wider content, for example: using H.264 or H265 on ribbon displays.

Striped content must contain metadata; this is necessary to inform the DMP of the actual sign size or zone size in order to unstripe the content on playback.

Checking the **Auto Stripe** check box automatically performs content striping on any content that is wider than 8,192 pixels. Refer to Step 9 in **Using the File Converter (p.1)**.
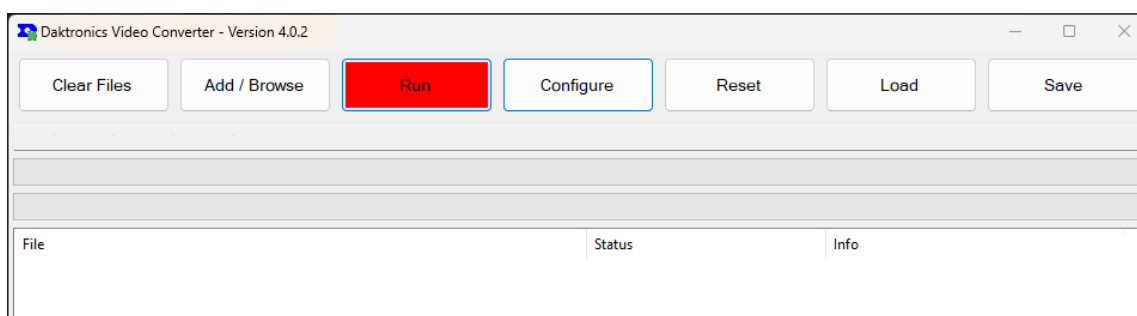
> **Note:** Use content striping for any content wider than 8,192 pixels and especially for any content wider than 16,384 pixels.

Content may be striped during the production process because software tools such as After Effects® are limited to rendering content at a width of 30,000 pixels. In this case, the content creator may use only a couple of stripes to keep the width less than 30,000 pixels and not be able to add the appropriate metadata. When converting this type of content, check the **Restripe** check box and enter the actual full size of the sign or zone. Refer to Step 10 in **Using the File Converter (p.1)**. The converter will unstripe the striping that was applied at the time of content production and then restripe with an optimized frame size. This ensures that it will work with the greatest possible number of CODECs.

Using the File Converter

Download the file converter program and copy it to the drive on the DMP computer that will be used to convert the video files. To create a profile to convert a video file, follow these steps:

1. Download and install the converter program located **here**.

2. Open the video converter application. Refer to **Figure 1**.

Figure 1: File Converter Application

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3. Click **Configure**. The **Configuration** window opens. Refer to **Figure 2**.

Figure 2: *Configuration Settings*

4. Select the appropriate **Command Line Format** from the drop-down list. Refer to **Figure 3**.

- To convert to H.264 MP4 format for medium displays, select the following setting:
  -i "{0}" -c:v libx264 {8} -preset {2} -crf {3} -pix_fmt {4} {5} -me_method {6} -bf {7} -y -f mp4 "{1}"

- To convert to HAP-encoded MOV format with no alpha channel for large displays, select the following setting:
  -i "{0}" -c:v hap -format hap {8} -pix_fmt {4} {5} -y -f mov "{1}"

- To convert to HAP-encoded MOV format with an alpha channel for large displays, select the following setting:
  -i "{0}" -c:v hap -format hap_alpha {8} -pix_fmt {4} {5} -y -f mov "{1}"

- To convert to a video format with alpha keying, select the following settings:
  -i "{0}" -c:v qtrle -pix_fmt {4} {5} -y -f mov "{1}" and select **argb** from the **Pixel Format** drop-down

- To convert to a video format with alpha keying for large displays, select the following setting:
 **-i "{0}" -c:v hap -format hap_alpha {8} -pix_fmt {4} {5} -y -f mov "{1}"**

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Figure 3: *Command Line Format Options*

5. If you need to change the color space, check the **Set Color Space** check box for any formats that support a YUV pixel format, if outputting HDR content, or if the standard definition bt601 color space is needed. Select the appropriate **Color Space** from the drop-down list. Refer to **Figure 4**.
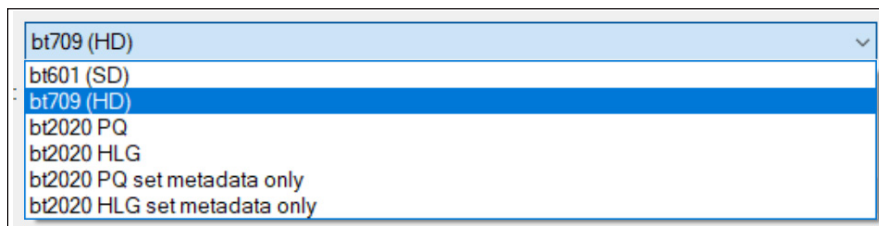
Figure 4: *Color Space Options*

> **Note:** Select **bt2020 PQ** or **bt2020 HLG** to output HDR content.

6. Clear the **Strip Audio** check box and keep the default option listed in the **Audio Options** field if audio is required.

7. Select the **Normalize Audio** check box to keep the audio levels the same for all content files. In most situations, use the default filter: **loudnorm=I=-16:TP=-1.5:LRA=11-ar 48k**.
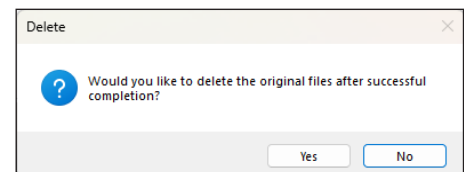
> **Note:** If the video is copied using one of the copy video formats rather than converted, the **Normalize Audio** option is processed quickly.

8. Select the **Scale** check box and enter an even number for the **Width** and **Height** of the source file resolution. If the display width or height is an uneven number, increase the odd number by adding 1. For example, if the uncompressed AVI file has a width of 3840 and a height of 925, enter the height number as 926.

> **Note:** The source file resolution must be divisible by 2; the conversion will fail if the output is not scaled to a size with even numbered rows and columns.

9. Select the **Auto Stripe** check box for content wider than 8,192 pixels. Refer to **Content Striping (p.1)**.

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10. Select the **Restripe** check box for content that was striped at the time of content production without the appropriate metadata. Enter the actual full size of the sign or zone in the **Width** and **Height** fields. Refer to **Content Striping (p.1)**.

11. Configure the **HAP Properties** if converting to one of the HAP formats. Daktronics recommends using the defaults of **4** chunks and the **snappy** compressor. Refer to **Figure 2**.

12. Set the **Delete File Option** with the drop-down list:

    • **Ask** – if you want the option to delete the original file. Refer to **Figure 5**.

    • **Never** – if you are manually converting files

    • **Always** – if you are using the Video Converter Watcher Service; this option removes the original file from the watched folder

13. Click **OK**. The main application panel is revealed again. Refer to **Figure 1**.

14. Click **Add/Browse** and select the content file(s) to be converted. More than one file can be selected at one time. You can also drag and drop files from Windows® Explorer into the application to add files to the converter.

15. Click **Run**. A prompt to delete the original files will open if **Ask** was chosen in Step 12. Refer to **Figure 5**.

16. Click **No** when prompted to delete the original uncompressed AVI or MOV files from the computer in case the conversion has to be run again.

Figure 5: Delete Original Files Prompt

17. Verify that the new MP4 or MOV files are saved in the same folder as the original source files. The name may now contain a date code at the end of the filename. Refer to **File Naming/Saving (p.1)**.

Watcher Service

The Daktronics Video Converter Watcher Service is an application that is installed with the Video Converter program. This application will run in the notification tray of your computer if you click the **x** or minimize it. Use the Watcher Service to watch a folder and use a profile saved from the Daktronics Video Converter application to automatically convert files that are dropped into the folder. To set up the Watcher Service, follow these steps:

1. Go to the **Configure** tab and click **Add** to choose the folder that will be watched. Refer to **Figure 6**.
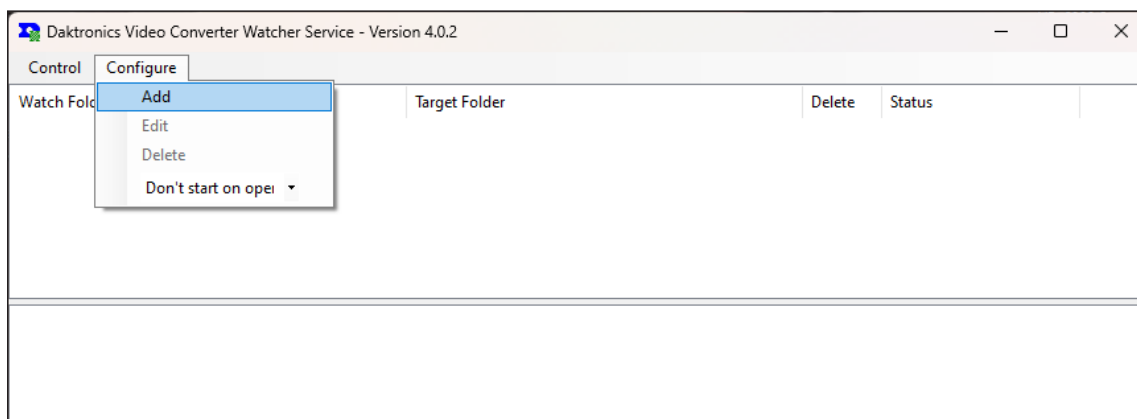
Figure 6: Add Folder to Watch

2. Enter or copy/paste the path of the **Watch Folder** or click **Watch** to navigate to the folder. Refer to **Figure 7**.

Figure 7: Edit Watch Item – Blank

3. Enter or copy/paste the path of the **Target Folder** or click **Target** to navigate to the folder. Refer to **Figure 7**.

4. Click **Conversion** to navigate to the saved video converter profile that will be used to convert the file from the watch folder. The profile used to convert the file is shown in the **Command Format** field. Refer to **Figure 8**.

Figure 8: Edit Watch Item – Populated

5. Check the **Delete after conversions** check box to delete the original file(s) in the Watch Folder after the conversion.

> **Note:** The **Delete after conversions** option overrides the **Delete File Option** that was chosen in the Video Converter program under Step 12 in **Using the File Converter (p.1)**.

6. Click **OK**. The designated watch and target folders are listed in the application. Refer to **Figure 9**.

Figure 9: Configured Folders

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Once the watch item is configured, it can be edited or deleted as necessary. Select the watch item and then the **Configure** tab above to **Edit** or **Delete**. Refer to **Figure 10**.
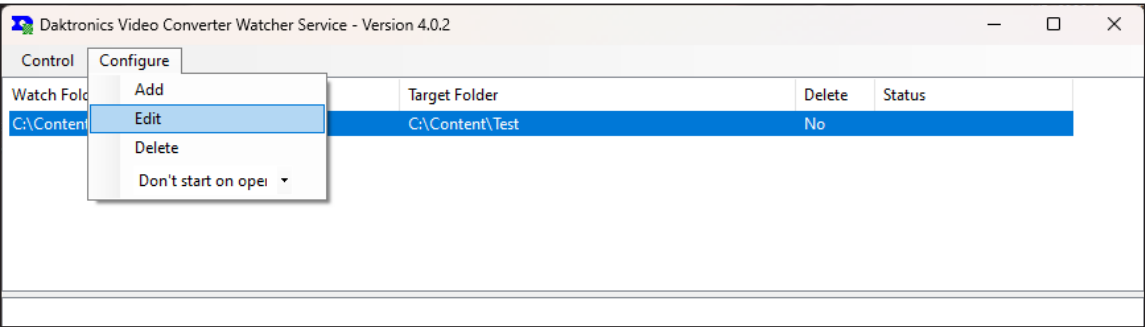

Figure 10: Edit Existing Watch Item

Multiple folders containing multiple video files can be watched at the same time. Each folder can have its own conversion profile and target folder. Refer to **Figure 11**.
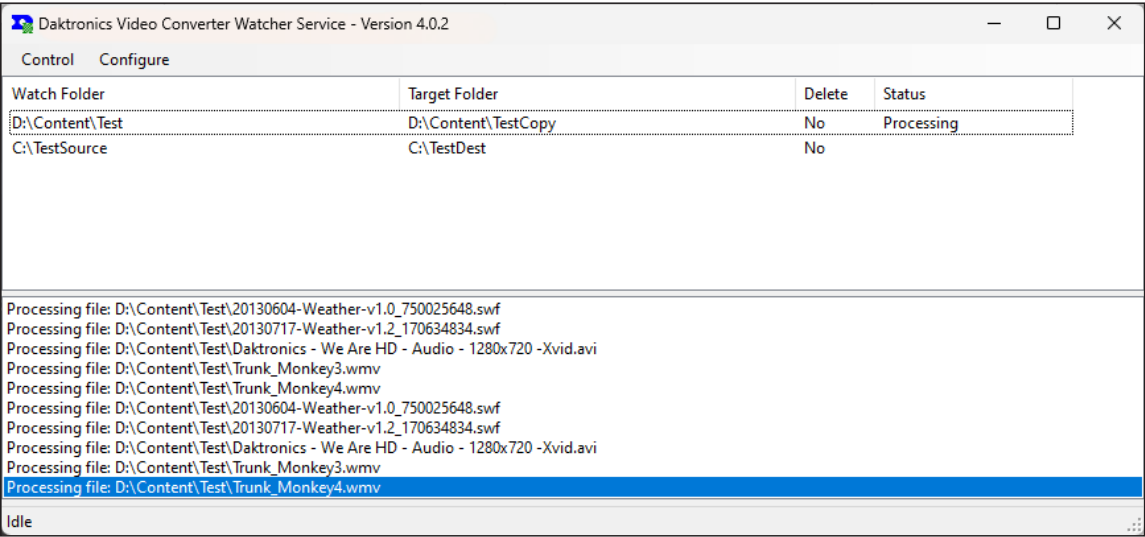

Figure 11: Watcher Service – Multiple Folders