

## CONTENTdm Video Best Practices

In order to provide good performance across a wide range of browsers, and in particular to ensure that videos start playing quickly, we recommend the following.

- **Use the MP4/H.264 format.** This container/codecs combination has the broadest HTML5 support among the most commonly used browsers.
- **Make sure the moov atom is at the start of the file.** In MP4/H.264, the file metadata is called the "moov atom". If the metadata is at the start of the file, the browser doesn't have to download the whole file before it can start playing. Proper moov atom placement can bring startup times down from many minutes to just a few seconds.

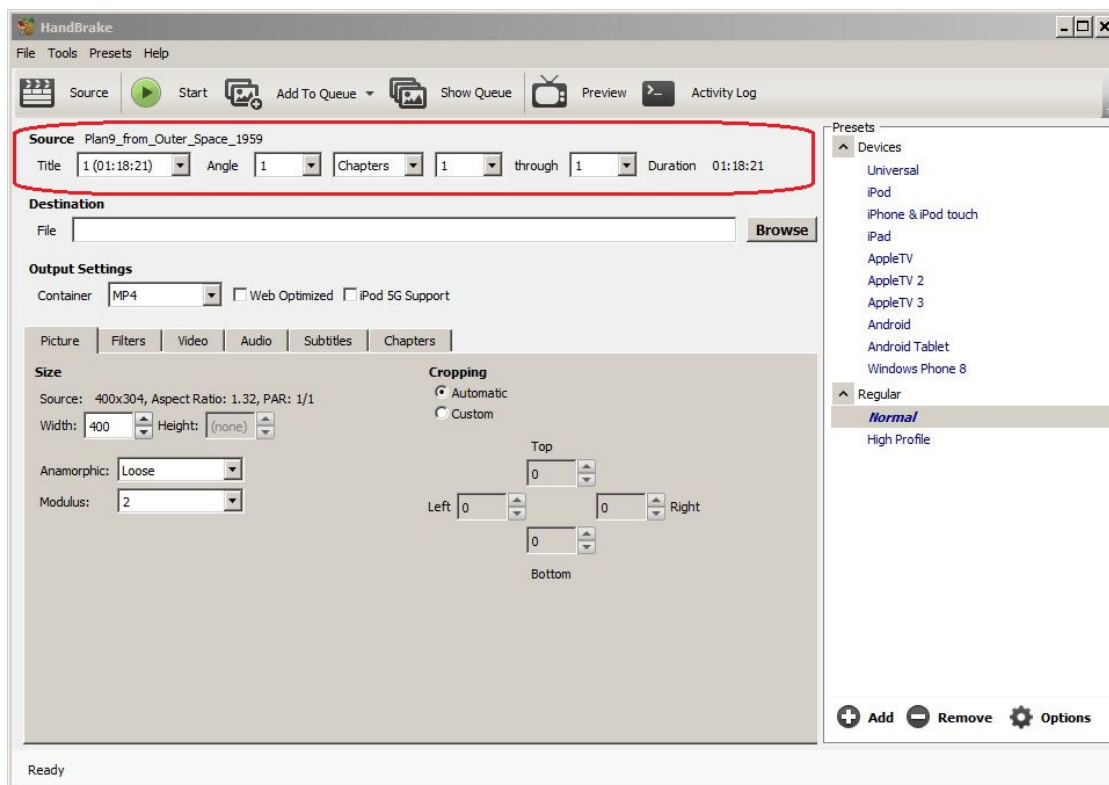
The easiest way to accomplish both of these tasks is to use a video transcoding tool to re-encode any problem files to MP4/H.264 with the moov atom at the start. Below we show how to do this using the Windows version of the popular HandBrake transcoder.

If you're already familiar with some other transcoder, you can probably use it to accomplish the same thing. Also, if your files are already in MP4/H.264 format, there are tools available that let you move the moov atom without re-encoding. See the Resources section at the end of this document for more information on transcoders and other tools.

**Note:** Whatever tool you use, *please be sure to update, upload, and test a few files* before updating and uploading a large number of files.

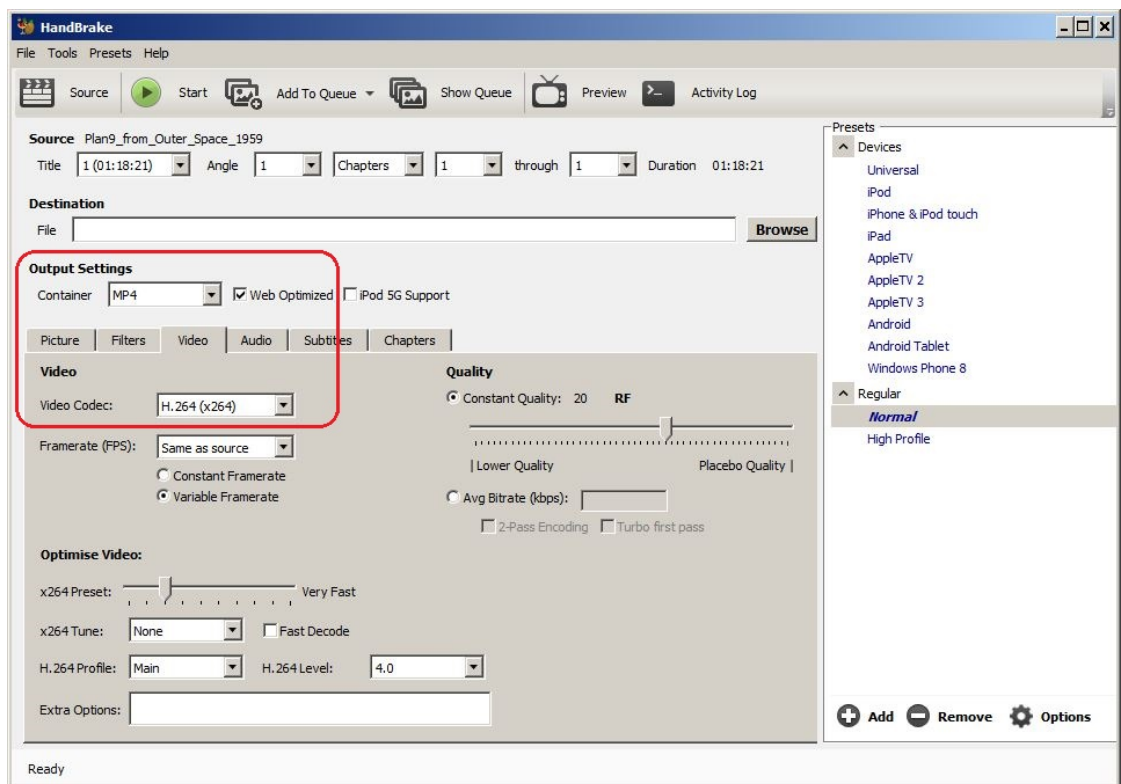
## Using HandBrake

1. Go to <https://handbrake.fr> and install the appropriate version for your platform.
2. Start HandBrake, click the **Source** button in the top left corner, choose **File / Open a single video file**, select the file you want, and click **Open**. You should see something like this:

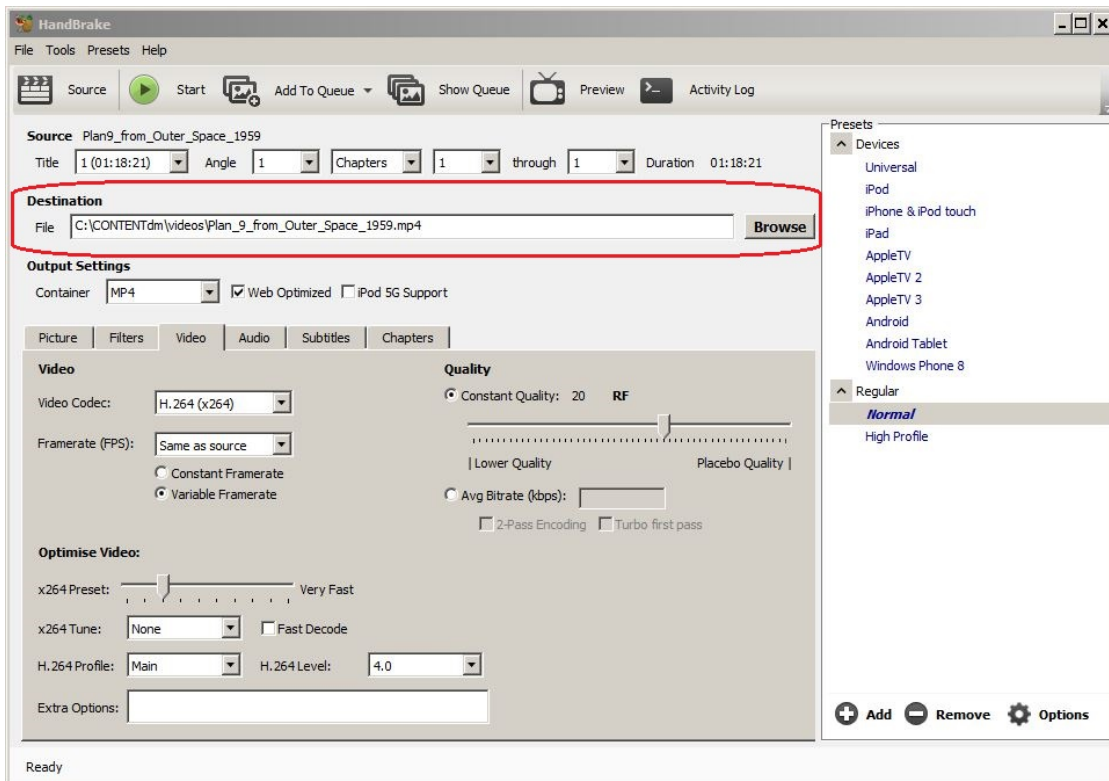


### 3. Under **Output Settings**:

- a. Make sure that **Container** is set to **MP4**.
- b. Check the **Web Optimized** box. This puts the moov atom at the beginning of the file.
- c. Click the **Video** tab and make sure that **Video Codec** is set to **H.264 (x264)**.
- d. For the many other settings available, it is usually best to accept the defaults. See the Resources section at the end of this document if you are interested in learning more about these settings.

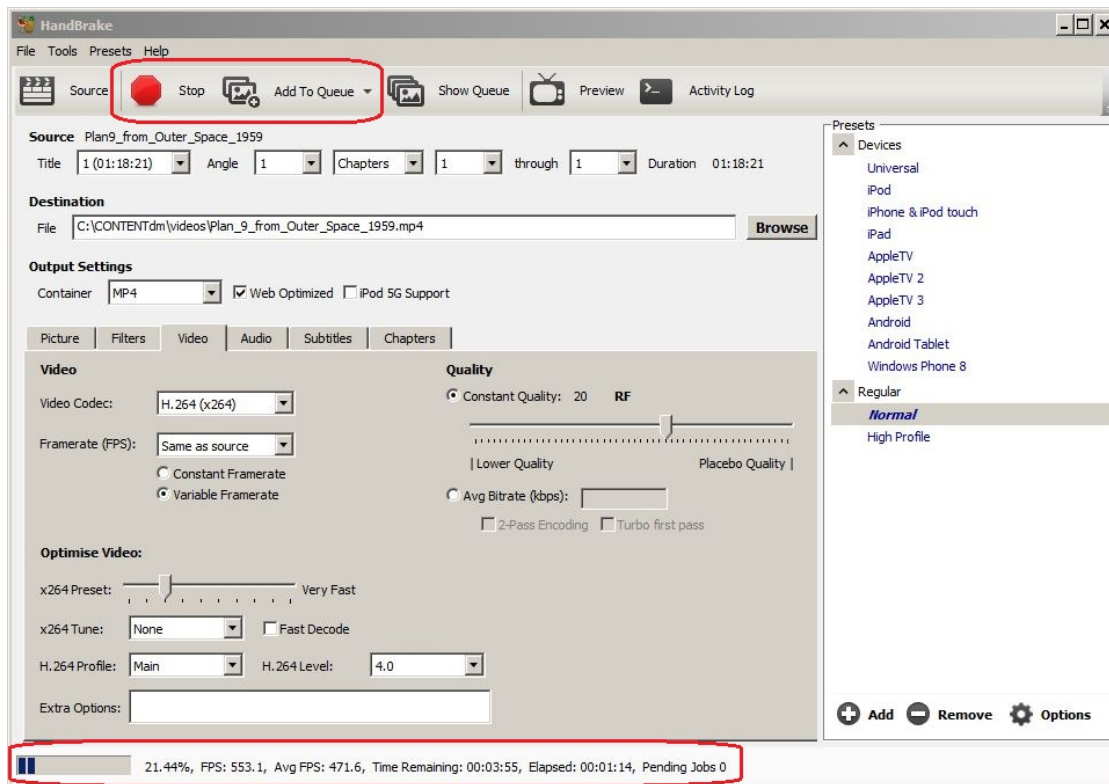


4. Under **Destination**, click the **Browse** button to the right of the File box. In the resulting Save As dialog, **Save as type** should default to **mp4 (\*.mp4;\*.m4v)**. Go to the folder where you want to save the file, enter a file name, and click **Save**.



5. In the toolbar at the top of the window, click **Add to Queue**. In the status bar at the bottom of the window, confirm that you now have "1 Encodes Pending".

In the toolbar, click **Start**. The Start button will turn into a Stop button. At the bottom of the window, you can use the status bar to track the progress of the encoding.



After HandBrake finishes encoding, use the CONTENTdm Project Client to upload the new file to your CONTENTdm Server. We recommend testing performance in at least two different web browsers.

HandBrake has many more features than those covered here; the batch-processing Queue is of particular interest to CONTENTdm users. For more information, please see <https://trac.handbrake.fr/wiki/HandBrakeGuide>.

## Resources

### **MP4/H.264**

[http://en.wikipedia.org/wiki/MPEG-4\\_Part\\_14](http://en.wikipedia.org/wiki/MPEG-4_Part_14)

[http://en.wikipedia.org/wiki/H.264/MPEG-4\\_AVC](http://en.wikipedia.org/wiki/H.264/MPEG-4_AVC)

<https://mattgadiant.com/2013/06/12/a-best-settings-guide-for-handbrake-0-9-9/>

### **moov atom**

[http://www.adobe.com/devnet/video/articles/mp4\\_movie\\_atom.html](http://www.adobe.com/devnet/video/articles/mp4_movie_atom.html)

### **containers and codecs in general**

<http://www.pitivi.org/manual/codecscontainers.html>

### **transcoders compared**

[http://en.wikipedia.org/wiki/Comparison\\_of\\_video\\_converters](http://en.wikipedia.org/wiki/Comparison_of_video_converters)

### **moving the moov atom without transcoding**

<http://renaun.com/blog/code/qtindexswapper/>

### **taking a closer look at your mp4 files**

<http://atomicparsley.sourceforge.net/>