VisualSoft Suite User Manual

Video Downsampler 11.0

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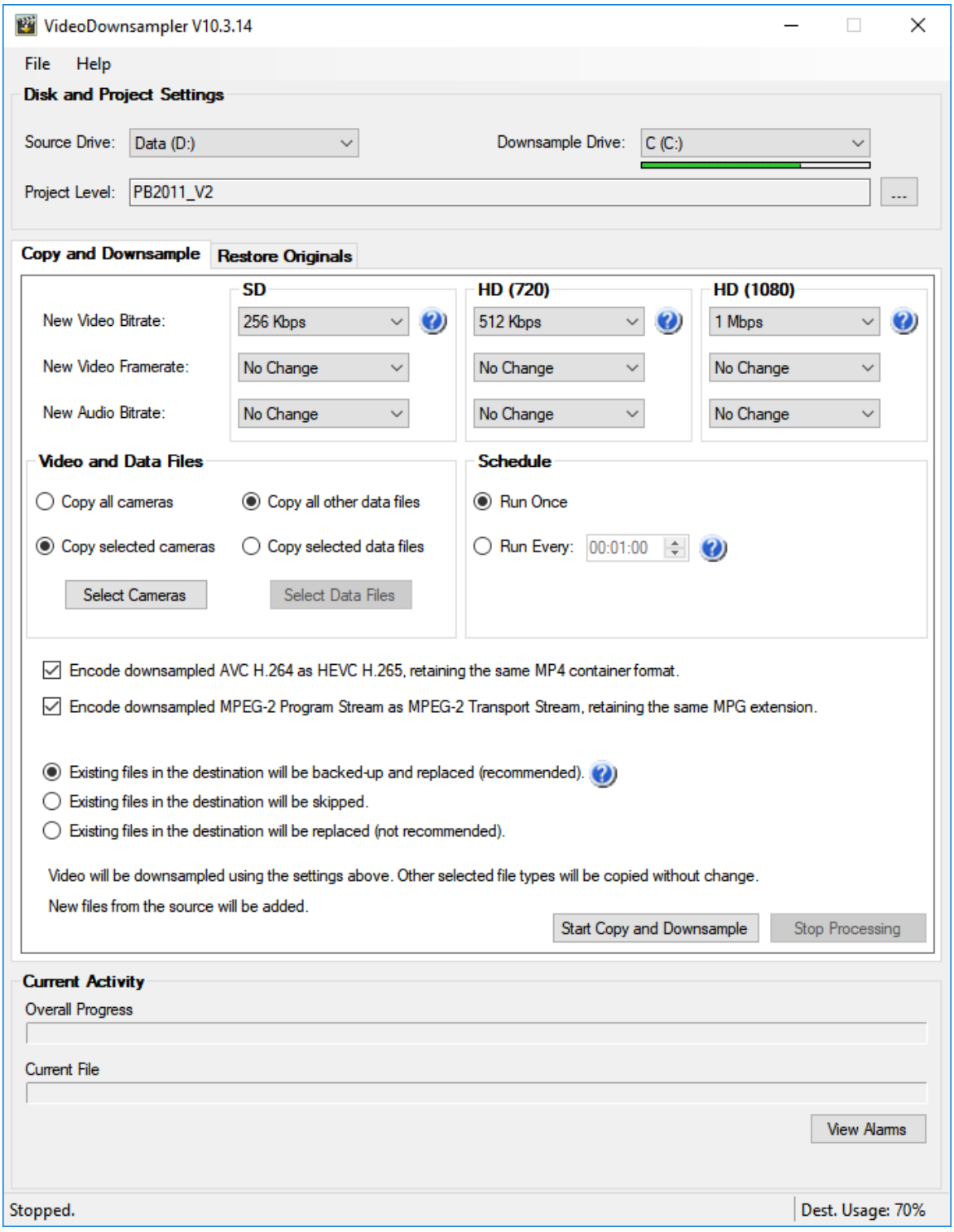
1 Video Downsampler



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1.1 Video Downsampler Introduction

The **VisualSoft Video Downsampler** has been designed for users who want to make a **temporary** copy of their video data with significantly smaller files. It is intended to allow users to send the smaller video files ashore via a satellite communications link for initial review and processing, and then recombine that onshore data with the original higher quality video files at a later date when the project ends and the original video files are brought ashore on disk.

The **Video Downsampler** requires a licence for either **VisualArchive** or **VisualEdit** (basic, Eventing or Professional editions) on the PC where the Downsampler is being used.

The **Video Downsampler** has the following key features:

- Select a **source** disk and a **destination** disk
- Select different **bitrate settings** for downsampling SD, HD 720 and HD 1080 resolution videos
- Optionally convert MPEG-2 Program Stream to MPEG-2 **Transport Stream** when downsampling
- Optionally convert all H.264 video to **H.265** when downsampling
- Optionally include some or all **other data types** for copying to the destination disk
- The Project Tree structure of the source date will be replicated on the downsample destination
- Run manually, or on a **schedule** designed to keep up with new recordings being transferred from VisualDVR to an offline source drive
- **Restore** original video files based on higher bitrate or larger file size
- Optionally retain **backups** of any pre-existing files on the destination drive when downsampling or restoring

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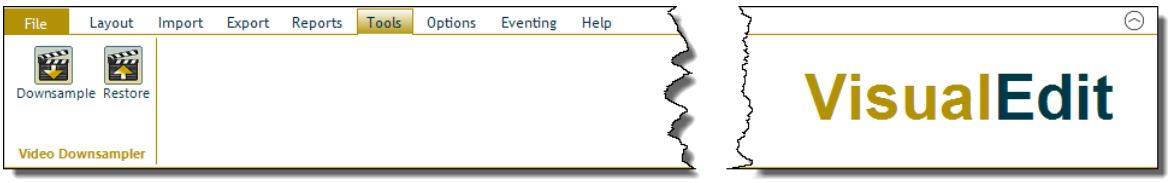
1.2 Starting the Video Downsampler

The **Video Downsampler** can be started by selecting it from the Windows **Start menu** where you will find it by clicking on Start, All Programs, VisualSoft Suite, and then Video Downsampler.

The **Video Downsampler** can be started from the **Tools** ribbon in **VisualEdit**, with options to start it in Downsample mode, or Restore mode. When starting the Downsampler from VisualEdit, if you currently have data loaded then the current Project will automatically be pre-selected for you in the Downsampler.



The **Video Downsampler** can be started from the ribbon in **VisualArchive**, with options to start it in Downsample mode, or Restore mode.

In both **VisualEdit** and **VisualArchive** you can also right-click on any Project, Sub-Project or Dataset to start the Downsampler from the Tools section of the pop-up menu. The chosen Project, Sub-Project or Dataset will automatically be pre-selected for you in the Downsampler.

1.3 Settings – Downsample

The Video Downsampler has many settings that you can change if you want to. For most purposes the default settings will give a good result.

The settings can be saved and reloaded using the File menu.

Disk and Project Settings

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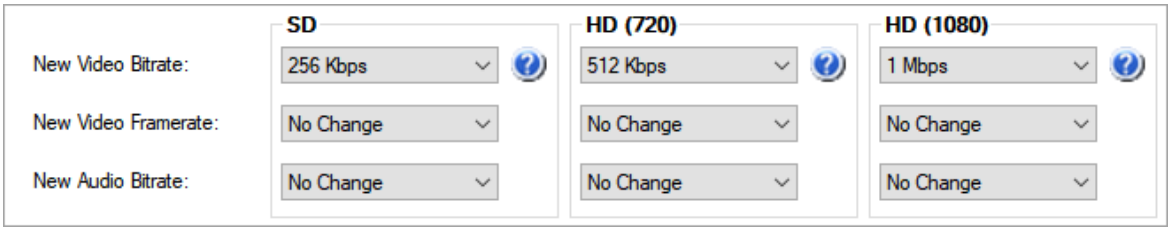
The source drive is where your original video files and other data are stored. This will typically be the same drive that is selected in the Project Tree of VisualArchive and VisualEdit onboard the ship where the video is being recorded.

The Downsample Drive is where the smaller, downsampled videos will be stored.

The Project level can be one Project, one Sub-Project or even just one Dataset.

Bitrate and Framerate Settings

The Video Bitrate is the setting which will have the greatest effect on reducing the file sizes. You can use lower bitrate values for SD video than for HD video, and lower bitrates for HD at 720 pixels high than at 1080 pixels high. You will need a higher bitrate for files recorded using Windows Media Video format (in ASF files) than for MPEG-2 (MPG files) or H.264 (in MP4 files). Video recorded as H.264 (in MP4 files) will allow the lowest bitrates of the available recording formats.



Note that the downsampling process will not exactly match the bitrate setting that you choose. The selected settings are treated as a target value and the system will usually achieve something slightly above or below the selected rate. This is entirely normal and expected.

It is very important to perform some tests to make sure that the downsampled videos are suitable. If you set the bitrate too low the video picture will be blocky or may not play at all.

We recommend that you do not change the framerate. If you reduce the framerate, the pictures may become jerky and unpleasant to watch.

The audio bitrate can also be adjusted. You should test this to make sure that commentary is still clearly audible.

Video and Data Files

You can copy some or all of the video cameras and copy some or all of the other data types in a Dataset. You can also choose whether or not to copy files in the associated

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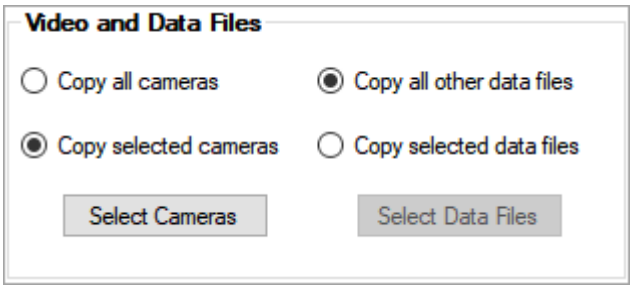
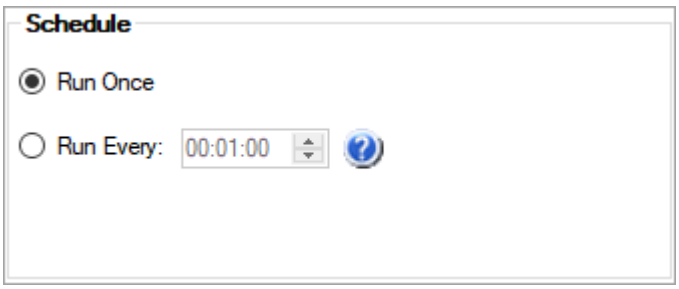
Project metadata folders such as Smart Processing or Documents. It is recommended that you copy all.



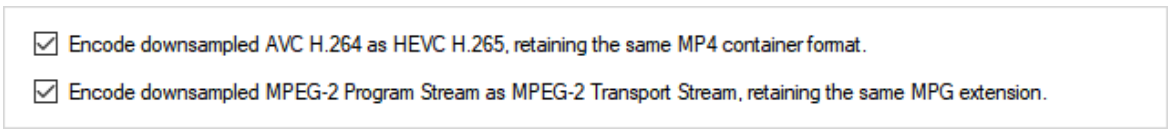
Run once or run on a schedule

You can either run the downsampling once on the selected Project or Dataset, or you can configure it to run on a timed schedule. If run on a schedule it will check for new data every so often and will downsample and copy anything it finds that is new. This setting will work well if run on a VisualArchive PC so that it keeps up with new data being transferred from online VisualDVRs.



Encoding options for downsampled files

The Downsampler will not change the file types of the downsampled videos, but in some cases it can change the file contents. If your VisualDVR records in H.264 format (using MP4 files) you may want to downsample using H.265 format (still in an MP4 file). H.265 will allow even lower bitrates while still achieving the same picture quality. If you recorded MPEG-2 in Program Stream MPG files, you may want to downsample as Transport Stream in MPG files to allow slightly smoother playback at low bitrates.



Note that downsampling MP4 files will require an NVIDIA graphics card with NVENC AVC H.264 support, and if you want to use the HEVC H.265 option that you need a slightly better NVIDIA card allowing both AVC H.264 and HEVC H.265 encoding support. If your card does not support AVC H.264 this will be displayed as shown below, and you will not be able to downsample any MP4 files. If it supports AVC H.264 but not HEVC H.265, there will be a less severe warning in black text. In both cases the option to use H.265 will be disabled.

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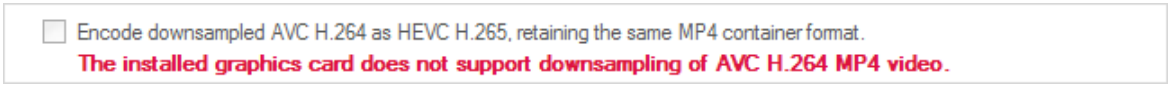
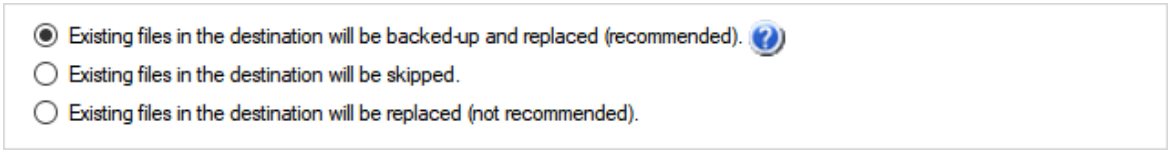


Backup or overwrite existing files

Sometimes it may be necessary to run the downsampler more than once, especially when testing settings. In this case you may want to change the settings that decide whether to keep or overwrite existing files on the destination "Downsample drive".



Start or Stop Downsampling

After you have configured the settings, start the processing by clicking on the "**Start Copy and Downsample**" button. If you need to stop the downsampling, click on "**Stop Processing**".

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1.4 Settings – Restore

The Restore mode allows you to replace the small downsampled video files with their original, larger higher quality counterparts. When you have the original storage disks back onshore you may want to put the bigger, better videos into the processed datasets in place of the smaller, lower quality videos.

Normally you will probably only want to **restore** the same cameras as were previously downsampled, but if you did not downsample all available cameras you may also want to "restore" or add any missing cameras, or perhaps just a specific selection of cameras. There are options that allow you to make these choices.

The selection of what to **overwrite** and replace can be made by looking inside the files to check that the original has a higher bitrate, or simply by checking that the original file is larger. (It is expected that both will give the same result because the bitrate affects the file size.)

It is up to you whether you keep a backup copy of the small, downsampled files or allow the restore operation to just overwrite them.

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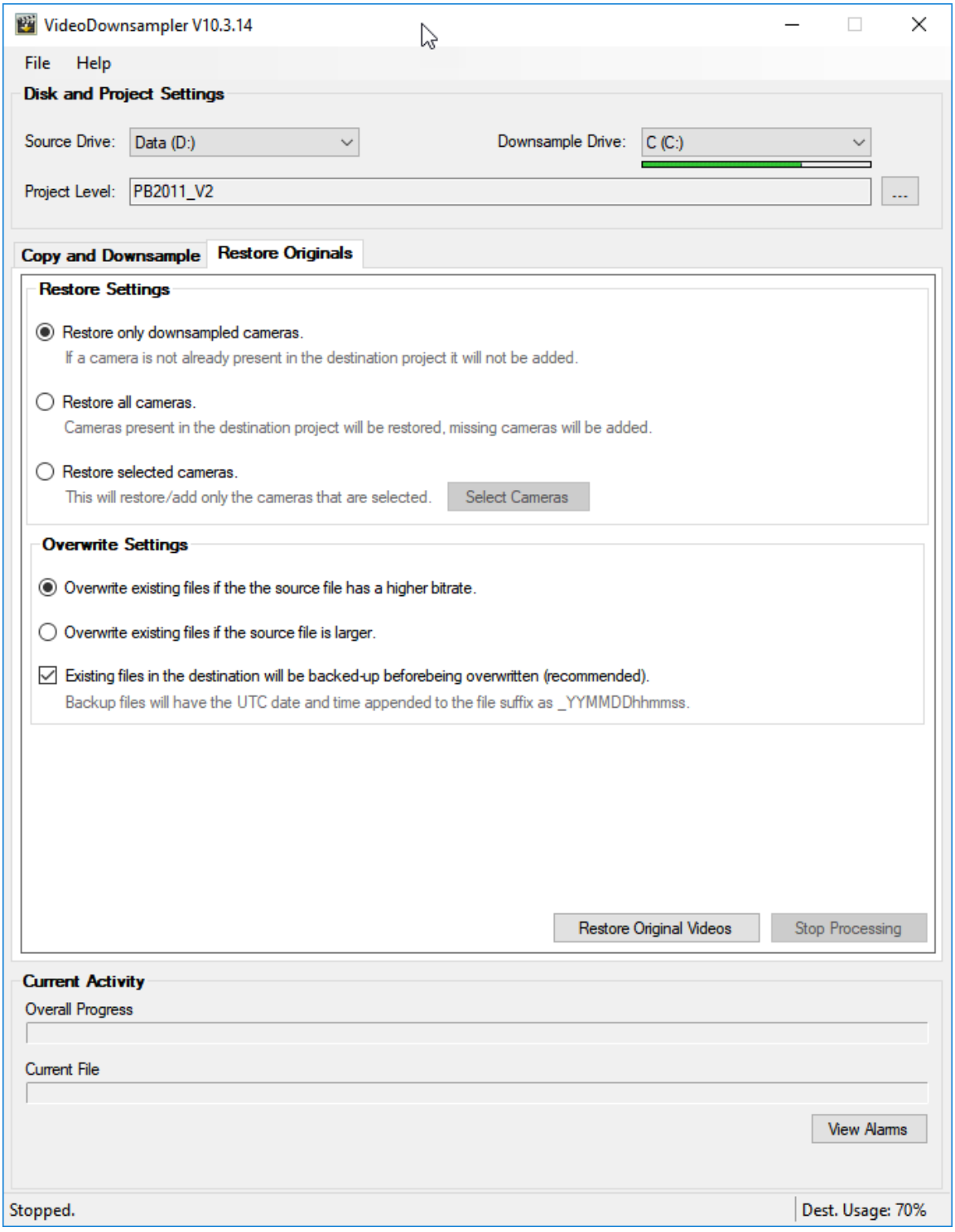

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2 Contact Details

Forum Subsea Technologies has offices in many parts of the world. The VisualSoft team is mostly based in Aberdeen in the UK, but we also have regional sales staff and some support services in other parts of the world.

The following pages have details of how to contact either our sales team or our support team, by telephone, email or by post.

2.1 Contact Details – Support

Website: f-e-t.com/visualsoft

Most support questions are most easily answered by email:

Using email gives our support team time to think about your problem before they reply, and time to test the software if necessary. If your question is urgent, do not hesitate to telephone us, but even then it may be best to send an email before you call, even if only a few minutes before you call. Sending us an email will allow you to include screen captures, data files and other things that may make it easier for us to quickly and accurately understand your problems.

Support Email (recommended)	visualsoft.support@f-e-t.com
Phone: UK & Global, during UK office hours	+44 (0) 1224 744 000
Phone: UK & Global, outside UK office hours Available for clients with a valid support contract. Operates from 17:00 until 08:30 UK time each night Monday to Thursday, and all through the weekend from 17:00 Friday evening until 08:30 Monday morning.	+44 (0) 1224 363 999
Phone: USA, 24/7 During Houston office hours this will connect you to our US team. At other times, or if the US team is busy, it diverts to the UK team.	+1 713 454 7091

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2.2 Contact Details – Sales

Website: f-e-t.com/visualsoft

For address and telephone/fax details, please select the appropriate office for your region:

Aberdeen, UK	FET – VisualSoft Cumberland House Endeavour Drive Arnhall Business Park Westhill Aberdeenshire AB32 6UF UK
Sales and rental enquiries:	visualsoft.sales@f-e-t.com
Telephone:	+44 (0) 1224 744 000

Houston, USA	FET – VisualSoft 10344 Sam Houston Park Drive, Suite 300 Houston TX 77064 USA
Telephone:	+1 713 329 8273

Singapore	FET – VisualSoft Asia Pacific Rental Service
Email	visualsoft.sales@f-e-t.com
Telephone:	+65 9643 7433 / +65 9230 8138

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