

How To Save Video From AVDS

Background



Because of its flexible animation facility, AVDS is a great tool for understanding vehicle dynamics. This also makes it a great tool for demonstrating such things as vehicle dynamics, concept vehicles, and concepts of operation. In order to make it possible to save and distribute these demonstrations, AVDS is capable of saving animation videos in Microsoft's *Audio Video Interlaced* (AVI) format. This function captures each frame of the animation and saves it to an AVI file. The compressor/decompressor (CODEC) utilities installed on the computer are used to compress the video as it is saved. For more information on saving videos see "Tips for Creating Videos" below.

Video Toolbar



- Video** - initialize AVDS for recording video
- ||** - pause/uptime video recording
- 1Frame** - record one frame of video
- 1Sec** - record one second of video

Procedures for Saving Videos

1. Switch to Playback mode 
2. Press the **Video** button on the *Video Save Control* toolbar
3. Press the **START** button
4. Select the desired playback speed, i.e. > (1x forward) 
5. Unpause the video by pressing the **||** button.
6. When done recording press the **STOP** button

Video Configuration Options

Configure->Video Capture

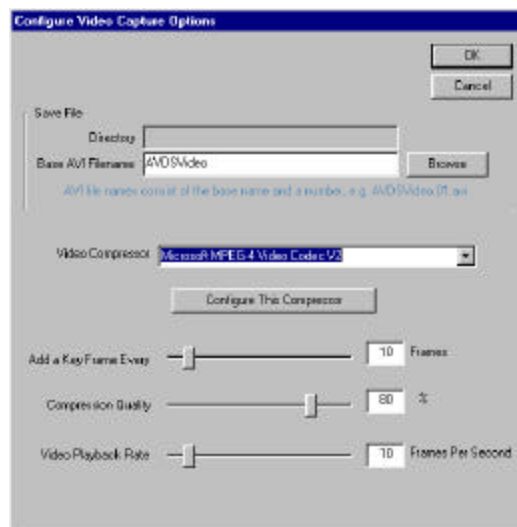
Base AVI Filename: A number is added to this name to create a unique AVI file name. A new file is created for each video.

Video Compressor: Select a CODEC to compress the video.

Add a Key Frame Every: The frequency to save the full image. Only changes in the image are saved in between key frames.

Compression Quality: Quality of frame capture.

Video Playback Rate: Number of frames per second to capture.



Tips for Creating Videos

CODEC: Experiment with different CODECs. They make a big difference in both speed of saving videos, and quality/size of saved videos. Many CODECs can be downloaded from support.microsoft.com, search for codec download. One recommended CODEC is “Microsoft MPEG4 Video Codec V2”.

Frame Dimensions: Choose the smallest frame dimensions possible. The size of the video file is quite a bit smaller when video frame dimensions are small.

Scene Complexity: Scenes with complicated backgrounds contain more information than simpler scenes. When the camera moves, more information needs to be saved. This means that complicated scenes produce larger files than simple scenes.

Camera Dynamics: Keeping the camera stationary keeps the background from changing. This reduces the amount of information that needs to be saved between key frames.

Compression Quality: Lower compression quality reduces the amount of information saved to the video file.

Video Playback Rate: Quite often a video playback rate of 10 frames per second produces acceptable results. Lower playback rates reduce video file sizes. If the frame rate is too high, media players produce jerky playback of the animation.

Key Frame Rate: The more key frames that are saved the larger the video file is. Key frame rate needed depends on the complexity of the scene and the number of moving objects.

Titles: Titles can be added to the video by:

1. pause the video capture.
2. put a document with the title over the AVDS window, i.e. PowerPoint, paint, etc.
3. record a second of video by pressing the 1 second button.
4. remove the title document and resume recording the video.

Combining Video Scenes: Videos with multiple scenes can be constructed by:

1. record the initial scene.
2. pause the video recording
3. change the playback time using the *Playback Time* slider, change cameras, or playback entities.
4. unpause the video recording