

# DirectX IO

## Version 1.0.4

The DIVA3D DirectX IO module corresponds to the `dxio.dll` DLL file and is used to provide DIVA3D capabilities of handling any video file type (e.g. AVI/MPEG/MOV/QT/WMV). Generally speaking, the Diva3D IO modules purpose is to interoperate with all the video processing/analysis modules of DIVA3D and provide them with video input/output capabilities. Specifically, they provide to DIVA3D functions for creating video streams, retrieving information about video streams, retrieving frames from video streams and copying frames to specific time points in a created video stream. The DirectX IO module provides to DIVA3D modules functions to handle all known types of video files.

To achieve this goal, the DirectX IO module uses extensively the DirectShow™ architecture (formerly [ActiveMovie](#)) developed by Microsoft™ to open video files and retrieve information and video frames. It automatically detects the file type of the video, retrieves the DirectX filter codec for the video file type and accesses its pixels using this filter provided that the appropriate DirectX codec has already been installed on the computer. In this way, the DirectX IO Module can open any type of video files as long as their DirectX codecs are installed. It should be noted that the aforementioned procedure is invisible to the user, as it does not require any settings from the user's side.

Although the DirectX IO module uses the DirectX architecture to open any video file, it uses the Microsoft™ Video For Windows (VFW™) library for creating video streams. Thus, the DirectX IO module produces only AVI video files, that can be compressed using any available AVI codec of the computer.

Important notice: It has been noticed that some video types (like \*.wmv) returns wrong video frame number. The reason is that the DirectX codec used to open the video file does not implement properly the object interface required to retrieve the length of the video stream (measured in video frame number). In such a case, the user should install a different DirectX codec. It has been also noticed that DIVA3D causes a NULL pointer exception, when handling movies that use DirectX codecs that do not have their object interfaces properly implemented.

To use the DirectX IO module, the `dxio.dll` file should reside in the DIVA3D working directory. Unlike the video processing/analysis modules, it does not create an entry in the DIVA3D menu.

Important note : DirectX IO module may not function properly when operated with some DirectX versions (like 9.0 or later).