

Instructions for the use of the AVI reader and Writer

Creating an AVI writing object.

The syntax for creating an AVI writer is

```
oAVIwriterObj = obj_new('krsGRaviwriter',filename, width, height, codec=codec, $  
                        framerate=framerate, quality=quality, nBits=nBits, red=red, $  
                        green=green, blue=blue)
```

filename is the name of the AVI file to be created and must end with an AVI and is a required parameter.

Width is the width (in pixels) of the each frame and is a required parameter.

Height is the height (in pixels) of each frame and is a required parameter.

Codec is the fourcc letter abbreviation for the compressor/decompressor you wish to use. If this is left undefined a GUI will pop up giving you a list of choices. The fourcc codec descriptions can be found at www.fourcc.org. If you pass in an undefined variable for the codec keyword then when you have chosen a codec then on return this will contain the four letter abbreviation.

FrameRate is the rate in frames/sec that you wish the movie to be played. The default value is 30 frames a second.

Quality is a number between 1 and 100 (default of 50) for the movie to be created. Higher quality tends to produce larger files.

Nbits is either 8 or 24 (default of 24) specifying the color make up of the AVI. If nBits is equal to 8 then the red, green, and blue arrays must be specified.

Adding a Frame to Movie

Once you have created the object adding a frame is easy.

```
status = oAVIwriterObj->addFrame(image)
```

If the AVI object was created with nBits=8 then image must be a 2D array. If nBits=24 then image must be a 3xMxN array.

If status is equal to anything but 1 then an error has occurred when writing this frame.

Closing the AVI writer

To close the writer just do the following

```
obj_destroy, oAVIwriterObj
```

Creating an AVI reader Object

The syntax for creating the AVI reader is

```
oAVIreaderObj = obj_new('KRSgrAVIreader', file, width=width, height=height,  
                        numberOfFrames=numberOfFrames, nBits=nBits, $  
                        red=red, green=green, blue=blue, hwnd=hwnd)
```

file is the movie file to be read. If file has either an .mpg or .mov (quicktime) extension then the AVI reader object will attempt to use the avisynth frame server to read the file. Avisynth is a free third party scripting tool for windows and can be downloaded at www.avisynth.org. The user need only install this program and the AVI reader object takes care of all the calls the avisynth. This process is completely transparent to the user.

Width will hold the width of each frame in the movie.

Height will hold the height of each frame in the movie.

numberOfFrames will be the length of the movie in frames.

Nbits will either be 8 or 24.

red, green, and blue variables will be undefined for 24 bit movies but will be filled for 8 bit movies. For an 8 bit movie these arrays are loaded into the IDL color space with the tvlct, red, green, blue command.

Hwnd is the windows handle that can be retrieved via this Device call. If you want to fastest possible speed in playing back your movie use this keyword along with the displayFrame method.

Device, widget_id=drawId, get_widget_handle=hWnd where drawID is the widget id returned from widget_draw. Depending upon how you create your object you may not have this widget id created yet. In that case you can use the reader setProperty method to set it.

```
oAVIreaderObj->setProperty, hwnd=hwnd
```

Getting a frame from the movie file

```
image = oAVIreaderObj->getFrame(frameNumber)
```

frameNumber is the frame index (starting at 0) of the movie. Attempting to retrieve a frame beyond the end of the movie will result in an error message.

Displaying a frame directly into the widget_draw window

```
oAVIreaderObj->displayFrame, frameNumber
```

frameNumber is the frame index (starting at 0) of the movie. Attempting to display a frame beyond the end of the movie will result in an error message. This method bypasses IDL completely and displays

the image frame directly on the widget_draw window.

Closing the AVI reader

To close the reader just do the following

obj_destroy, oAVIreaderObj