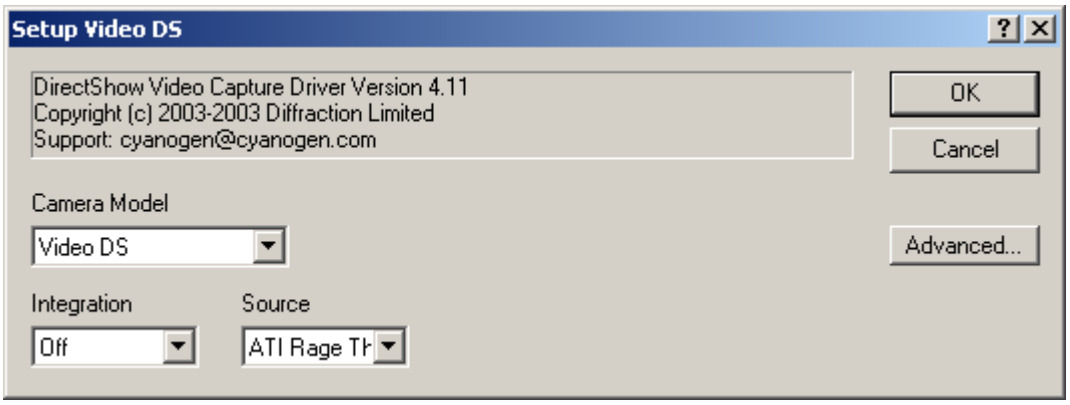
Video DirectShow

For this driver, please select **Video DS** on the **Setup** tab.



This option provides video capture facilities through the Microsoft DirectX system. It is strongly recommended that the latest version of **DirectX** be downloaded from the Microsoft web site and installed prior to using this driver. Also any **drivers** required by the video source must be installed; we recommend downloading the latest driver version from the manufacturer's web site.

Supported devices include most frame grabber and video input cards, including VIVO (video-in, video-out) display cards, FireWire (IEEE 1394) Digital Video (DV) cameras, and webcams.

Source chooses the video source to use. The selections available depend on what video hardware is installed in your computer. You may have multiple selections available if there are several video sources. The drop-down will be empty if no video sources are available.

When the driver is connected, a preview window will appear on-screen. The window can be resized using the mouse, although this does not change the intrinsic video resolution (this can be done via live setup; see below). The window can also be minimized if needed.

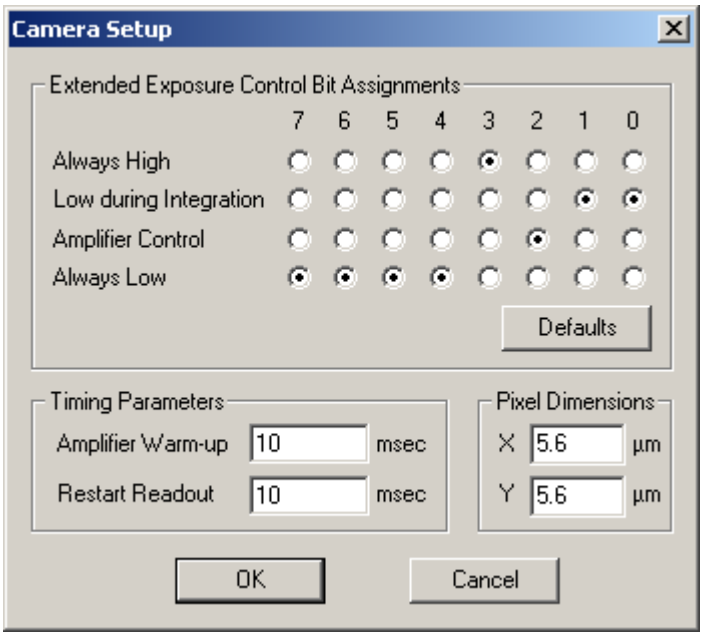
When the **Expose** button is pressed, the driver copies the current video frame into an image buffer in MaxDSLR. In most cases no exposure duration control is possible, but special integration modes are available. Binning can be set to 1x1 or 2x2, and subframes are supported. Autoguiding is possible if an ASCOM PulseGuide-compatible telescope mount, guider motor relay control box or similar independent output device is used.

Integration controls different integration modes; several different options are available.

Off means that a single video frame is grabbed each time **Expose** is clicked.

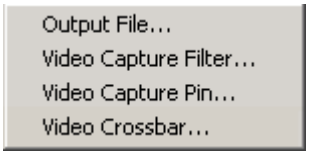
Frame Int. provides a frame integration feature, whereby multiple frames are summed. To integrate 10 frames, set the **Exposure time** to 10 seconds. When **Expose** is clicked ten frames will be grabbed and added together automatically. Typically this will happen in significantly less than 10 seconds.

Webcam 378, **Webcam 278** and **Webcam 3BC** are for use with webcams modified to perform on-chip integration, controlled by signals from a parallel port. The three I/O addresses 378, 278 and 3BC are the most common parallel port addresses on a PC and usually correspond to LPT1, LPT2 and LPT3 respectively. Click the **Advanced...** button to display the setup dialog and select the actual bit patterns presented during the exposure and their timing. Each of the 8 bits can be assigned as either **Always High**, **Always Low**, **Low during Integration** or as the **Amplifier Control** (low turns off amplifier). The configuration required depends on your equipment and cabling; clicking **Defaults** resets these to the standard pattern for the SAC-7 camera. Refer to your webcam's operating manual for the proper settings and for the **Amplifier Warm-up** and **Restart Readout** timing parameters. The **Pixel Dimensions** fields (**X** and **Y**) have no effect on imaging, but are entered into the `XPIXSZ` and `YPIXSZ` FITS keys in the image header when an image is acquired. Click **OK** to accept the current settings, or **Cancel** to leave them unchanged.



AVI Capture mode is used for recording AVI movies instead of individual images. You can set the file path for the AVI files using the live setup, as described below.

Several “Live Setup” features are also available. For the main camera, click the **Camera Setup** menu item on the popup menu display by the **Options** button on the Settings tab. For the autoguider, use the **CCD...** button on the Guide tab **Settings** dialog. When the button is clicked, a pop-up menu appears with various options; which options appear depends on the particular device you are using. Commonly-available options include **Video Capture Filter**, **Video Capture Pin**, and **Video Crossbar**.



Output File is available when the Video DirectShow driver is configured for AVI movie capture. This brings up a **File Save** dialog box. Browse to the output folder and enter a name for the file. The captured video will be placed in that file. If a subsequent capture is made, the filename will be appended with a suffix to prevent overwriting.

Video Capture Filter usually has two tabs, **Video Decoder** and **Video Proc Amp**. The latter allows you to adjust the video device’s brightness and contrast.

Video Capture Pin allows you to select the **Frame Rate** in frames per second, and **Output Size** in pixels. We recommend lowering the frame rate to 5 frames per second when using parallel port-controlled integrating webcams. **Output Size** is useful when using devices that default to relatively low resolution modes.

Most live setup features are not retained when the link is disconnected; however, frame size is restored automatically. For other settings you must reset them each time you connect to the device.