How To Use VirtualDub While Broadcasting on Night Skies Network

CAUTION! A DUAL COMPUTER MONITOR SYSTEM IS ABSOLUTELY NECESSARY

Due to the number of programs that are running simultaneously, having a computer system with dual monitors is absolutely necessary to be able to easily access all of them.

## Software Programs Used in Conjunction with Virtual Dub (VD) and Night Skies Network (NSN)

- MallinCam Control, MiloSlick, or any other camera control software that will allow:
    1. Controlling the MallinCam video cameras integration/exposure time
    2. Capturing and saving images if using the stacking method
    3. Controlling all cameras setting like the video settings and camera menu settings.

- WebCamMax, ManyCam or other similar video capture software which allows one to display their desktop preview screen on the NSN viewer screen for broadcasting.

- DSSLive or MiloSlick for those who wish to show a stacked image with VD filters applied onto the NSN screen.

Procedure #1:   For image stacking or a non-direct NSN connection which requires a preview screen open (MiloSlick). This technique can also be applied to the MallinCam Universe CCD/Video camera.

➡️*If you will not be connecting to NSN, you can use this procedure, except instead of placing the red box (WebCamMax) or grey box (ManyCam) for desktop screen capture around the VirtualDub preview, you would lasso the box around the MallinCam Control or MiloSlick preview screen. See Step 5 below. However, instead of using VirtualDub's preview, use the MallinCam Control or MiloSlick preview. With VirtualDub capturing an AVI using the appropriate device's "screen capture", set the source to match your camera control's preview screens resolution. Omit Steps 6 and 7 below, since you will not be broadcasting.*

Connection Steps

1. With VirtualDub running, go to FILE and select "Capture AVI". This will bring up the devices where you will select "Screen Capture".
2. Go to the Video Tab and select "Preview" and "Progressive – for both field in preview acceleration". Remember to set resolution to 640 x 480 under the same video tab at "set custom format". *Also importantly you want to position your preview(s) window within Virtual Dub by going to "source" again under the video tab and entering your numbers in "use fixed offset X & Y", select "capture mouse pointer image" and select "entire desktop" for panning area. ** Most video cards cannot use OpenGL accelerated hardware so leave this box unchecked**. Please see examples below.
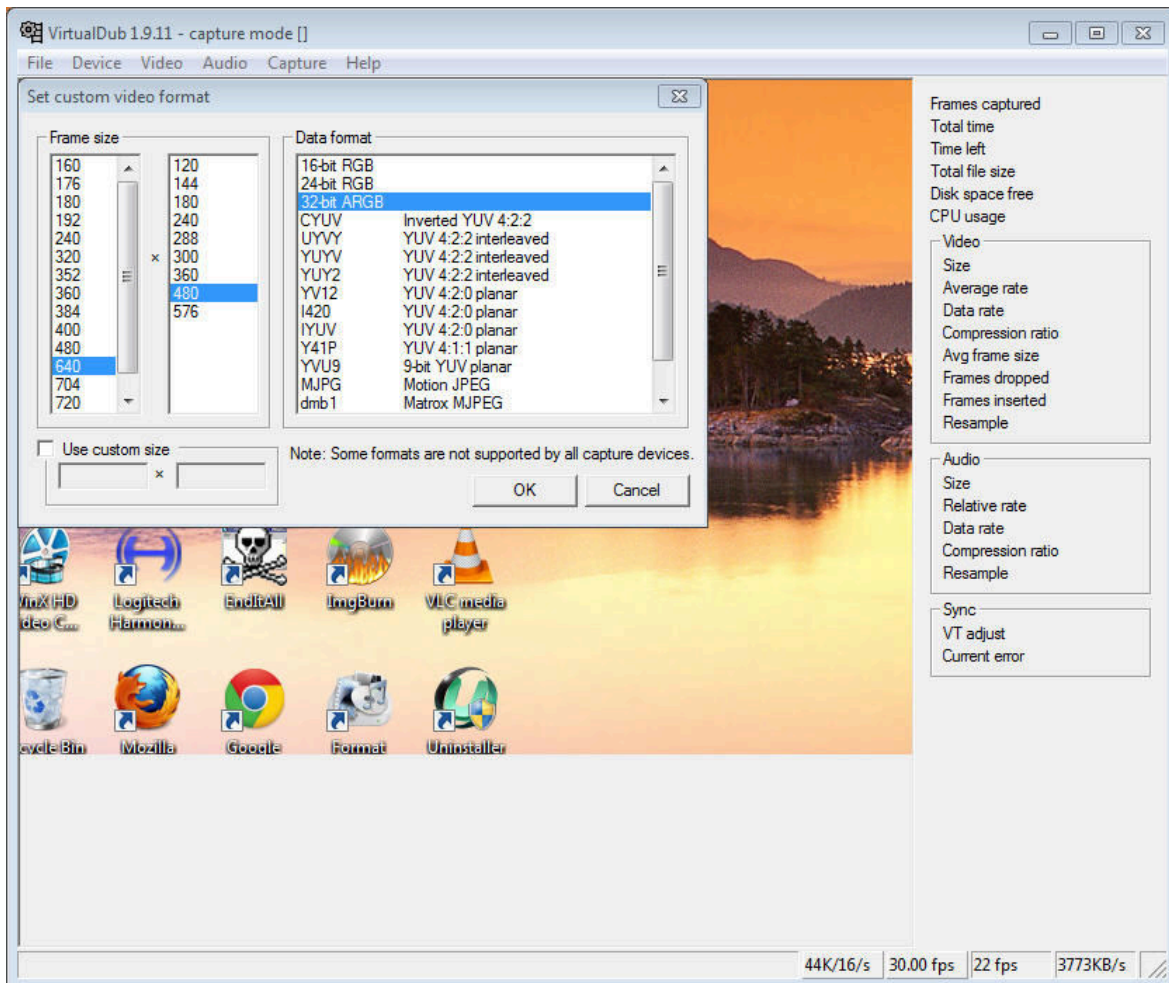
Example of setting the screen resolution in Virtual Dub
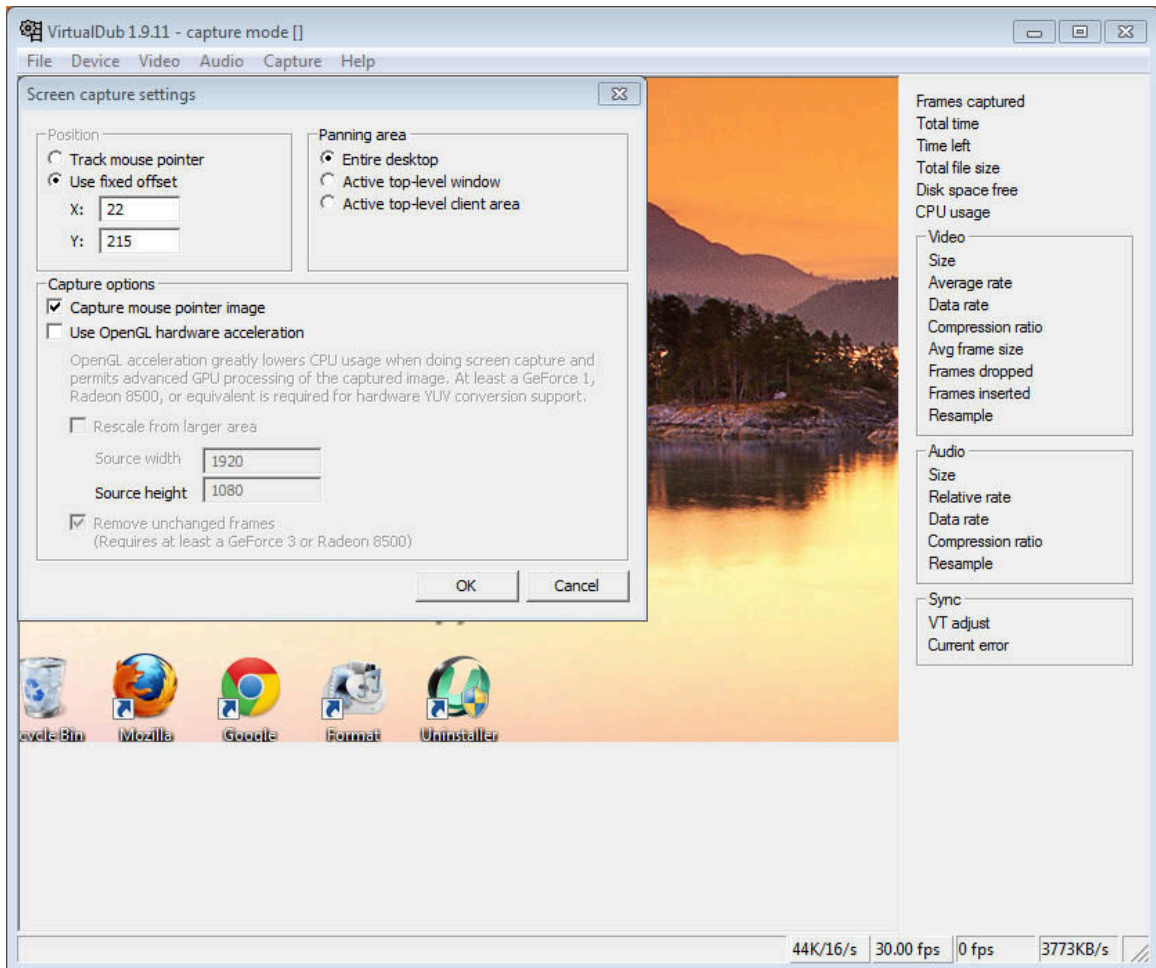
Example of setting the capturing screen source

3. Next open either MallinCam Control or MiloSlick and set up your Mallincam video camera in the usual manner. For example wait for the 3 minute countdown time to lapse, connect to your video frame grabber, open preview and set the resolution to 640 x 480. Use on DSSLive to match the size of you MallinCam Control preview.   NOTE: Only required if you will be stacking live.

4. Open up DSSLive if **not** using MiloSlick and drag your mouse to size DSSLive to match the MallinCam Control's preview window.   NOTE: This is **not** required if you are not going to stack live.

5. Open up WebCamMax or ManyCam and use their desktop capture feature to position the capture box directly over the VirtualDub preview window.

6. Open up NSN and left click on the display window to bring up the picture quality parameters. Choose "Dynamic" and "640 x 480" resolution.

7. Next right click on the NSN screen, click on "Settings" and under "Camera" choose either "WebCamMax" or "ManyCam" as the camera source.

Positioning Software on Dual Monitors

On the second monitor, place and position all software programs like your web browser for displaying NSN, MallinCam Control or MiloSlick (but **not** it's preview window), planetarium software (like SkyTools 3 or The Sky), autoguiding software and WebCamMax or ManyCam. This will prevent any interruption to your NSN audience. Place and position carefully all of your important software programs like MallinCam Control or MioSlick's preview window, DSSLive if not using MiloSlick for stacking and Virtual Dub. Make sure that all of these programs are properly aligned/overlay onto your main computer monitor with **all** preview screens set to 640 x 480 resolutions.
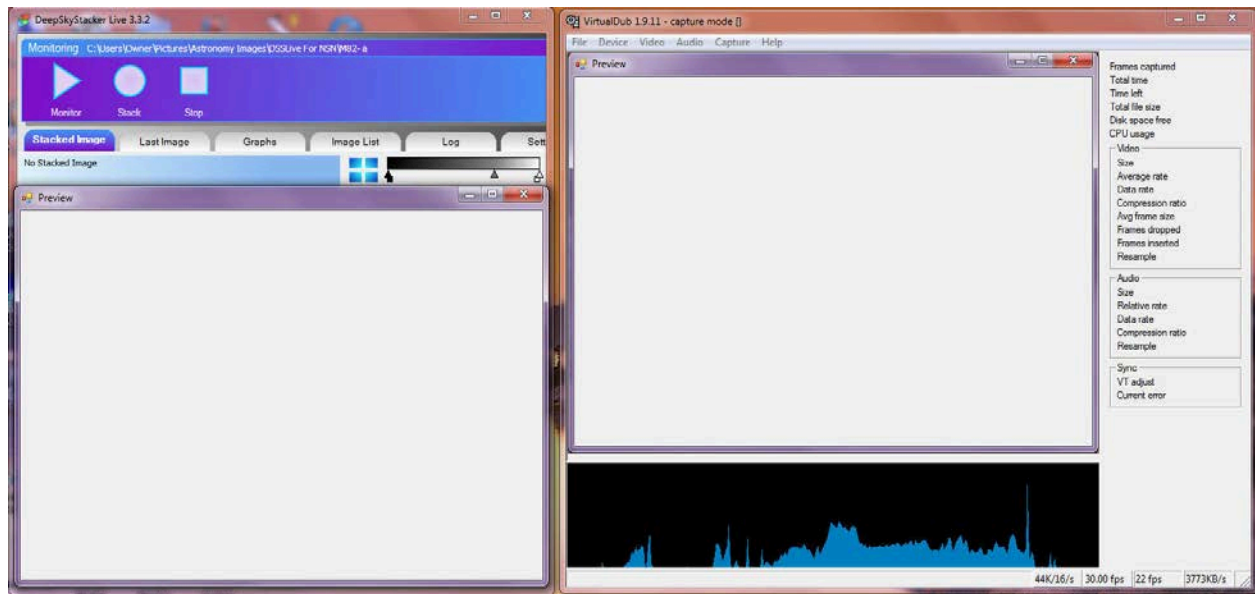
Example showing the programs overlaid and beside Virtual Dub

How to Use the Programs for Stacking and Applying VD Filters

Using MallinCam Control, set your exposure and adjust the image using the video setting sliders. Once you like your image, you can start to capture and save your images to a designated folder that you created. Once you have an image saved, you can then use DSSLive to stack the images on the fly. You then can leave DSSLive on the screen and apply your Virtual Dub filters to the DSSLive stacked image. If you are using MiloSlick, this is automatically stacked

without the need to capture/save. You can then tweak this stacked image using the video setting sliders in MiloSlick, and then with MiloSlick on the screen you can apply your Virtual Dub filters to the stacked image.

Procedure #2: For a direct NSN connection which does not requires an preview screen open (MallinCam Control). One cannot use this method when planning to live stack.

Connection Steps

1. With Virtual Dub running, go to FILE and select "Capture AVI". This will bring up the devices where you will select your video frame grabber.
2. Go to the "Video" tab an select "Preview" and "Progressive – for both field in preview acceleration". Remember to set resolution to 640 x 480 under the same video tab at "set custom format".
3. Open MallinCam Control and set up your Mallincam video camera in the usual manner. Start the program; wait for the 3 min countdown timer to lapse and making sure of your camera settings. You can use the video settings in MallinCam Control rather than using Virtual Dubs video settings (video tab – levels) by connecting in MallinCam Control "device" to your frame grabber, but **make sure that you connect to Virtual Dub first.**
4. Open up WebCamMax or ManyCam and use their desktop capture feature to position the capture box directly over the VirtualDub preview window.
5. Open up NSN and left click to bring up the picture quality parameters. Choose "Dynamic" and "640 x 480" resolution.
6. Next right click on the NSN screen then click on settings and under camera choose either "WebCamMax or ManyCam" as the camera source.

Positioning software on dual monitors

On the second monitor, place and position all software programs like your web browser for displaying NSN, MallinCam Control, planetarium software (like SkyTools 3 or The Sky), autoguiding software and WebCamMax or ManyCam. This will prevent any interruption to your NSN audience. Place your Virtual Dub onto your **main** monitor and make sure your resolution is set to 640 x 480 resolutions like I described in step #1.

How to Use the Programs for Applying VD Filters

Using MallinCam Control, set your exposure and adjust the image using the video setting sliders, **but do not over do it at this point**. You can apply your VirtualDub filters directly to your image and then go back and tweak the video sliders in MC Control.

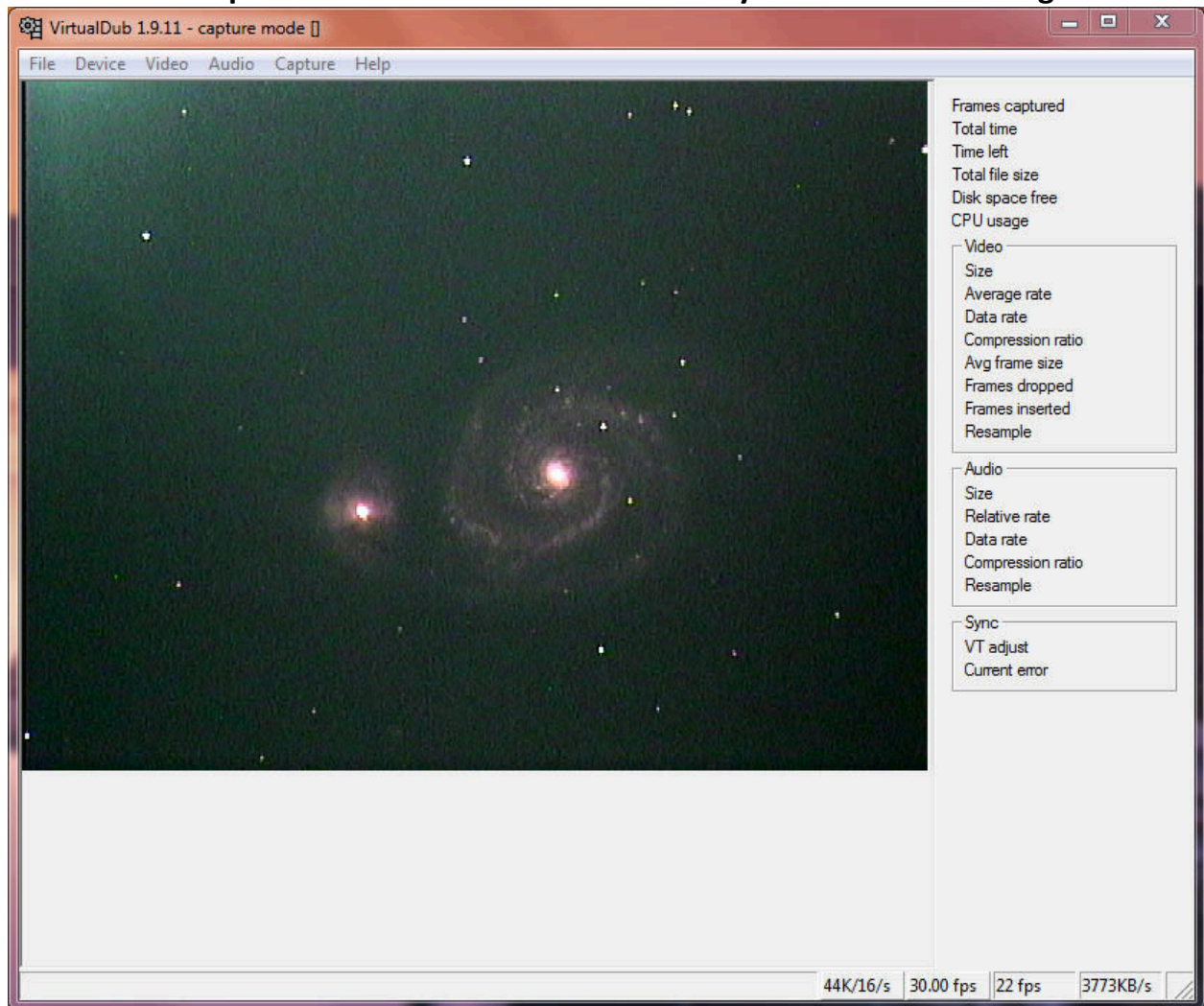**Examples of what can Virtual Dub do for your live broadcasting**

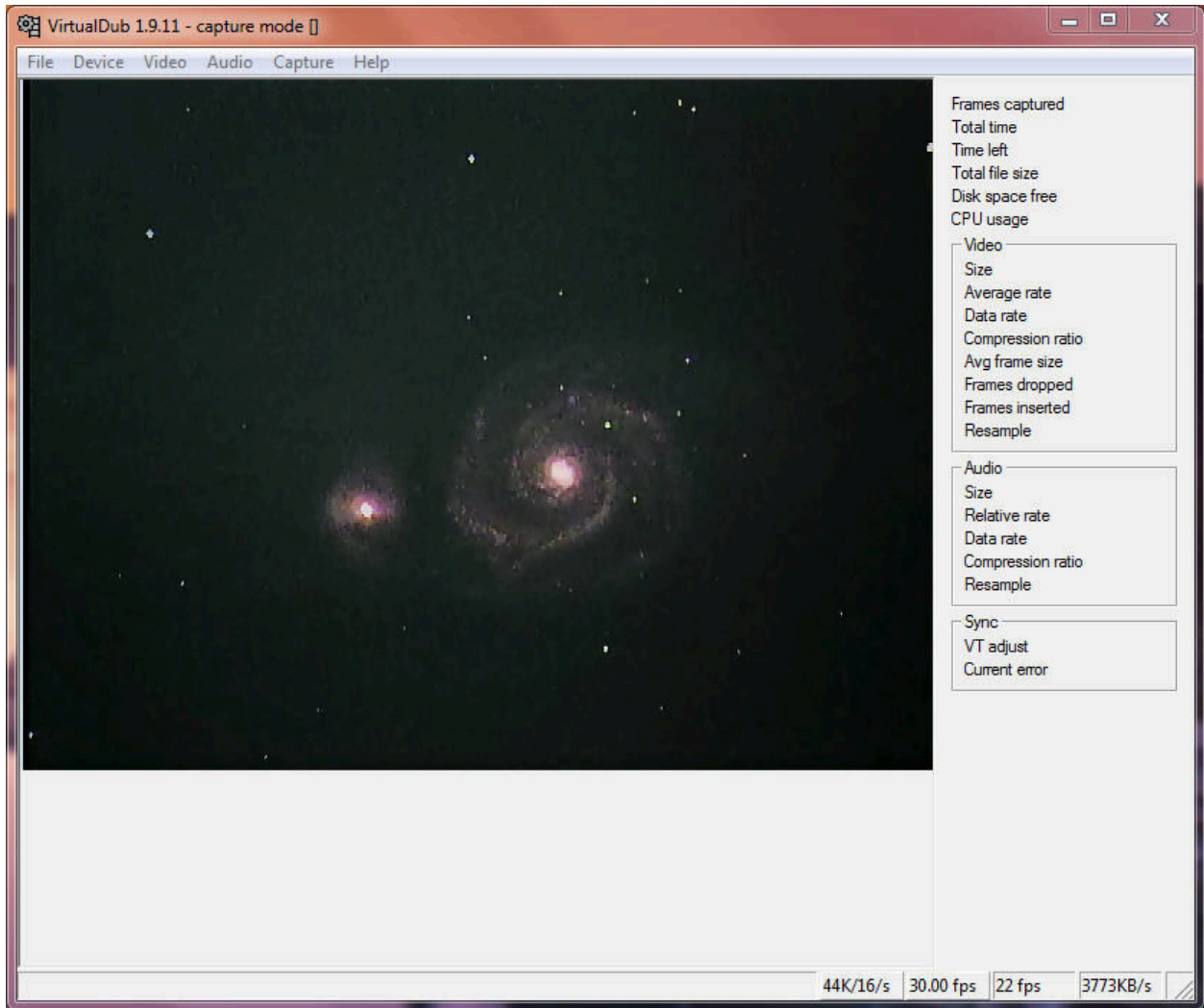Image Prior to Using VirtualDub Filters

Image After Applying VirtualDub Filters

 NOTE: You can use the awesome histogram tool in VirtualDub located under the video tab when applying the Virtual Dub filters or when adjusting the video setting sliders for a very accurate precise adjustment so you do not clip the background or foreground. This histogram can remain open at all times and will **not** disturb your NSN broadcast.

Hope you all enjoy using VirtualDub as a very powerful enhancing astronomy tool!

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