

Product overview

The View-Neg. will "invert" a video signal, i.e. change a negative signal into a positive one and vice versa. It will work with any composite video signal, whether from camcorder or VCR. It can be used to deliberately create an unusual effect with moving footage, or with the appropriate attachment, it will allow you to view your photographic negatives as if they were normal photographs. It has built in contrast enhancement and an adjustment for the black reference level. It can be powered either from a 9v PP3 battery (not included) or from the ac adapter (included).

Instructions

(Assuming you wish to transfer photographic negatives onto video as a positive image)

You will need;

- A View-Neg signal inverter
- A Camcorder or video camera (ideally with manual exposure)
- A monitor (or TV with suitable AV inputs)
- A VCR (if you wish to record the final image)
- A means of holding the negative such that the camcorder can easily focus upon it. For 35mm format negatives this is most easily achieved by using a video slide duplicator together with a negative strip carrier (*some slide duplicators are supplied complete with a negative carrier, some aren't. They can be purchased separately if you need one*). Larger format negatives can be positioned upon a lightbox or similar and the camcorder used in macro mode, or preferably with some sort of close up lens attachment.
- A suitable light source (see hints and tips for more details)
- A colour conversion filter or gel (usually blue)
- A suitable set of connecting leads.

Connections

Connect the "video out" (usually yellow) phono socket on your camcorder to the "video in" socket on the View-Neg. Next connect the "video out" socket on the View-Neg to the input of the VCR you will be using to record the image (ensure that the VCR is set to "AV" or "external" input). Use the TV (or suitable monitor) set to the appropriate channel to see the signal that the VCR is receiving. Finally, provide power to the View-Neg.; this can either be with a PP3 type 9v battery fitted into the compartment in the back, or with the supplied ac adapter into the socket marked "dc in".

Now switch on the camcorder, the destination VCR and the TV/Monitor. You should be able to see the camcorder image on screen. If not, check that your "input and output connections are not reversed. Next, depress the "invert/normal" switch. You should see the image on screen change from positive to negative. If not, check that the "Power" LED on the View-Neg. is illuminated.

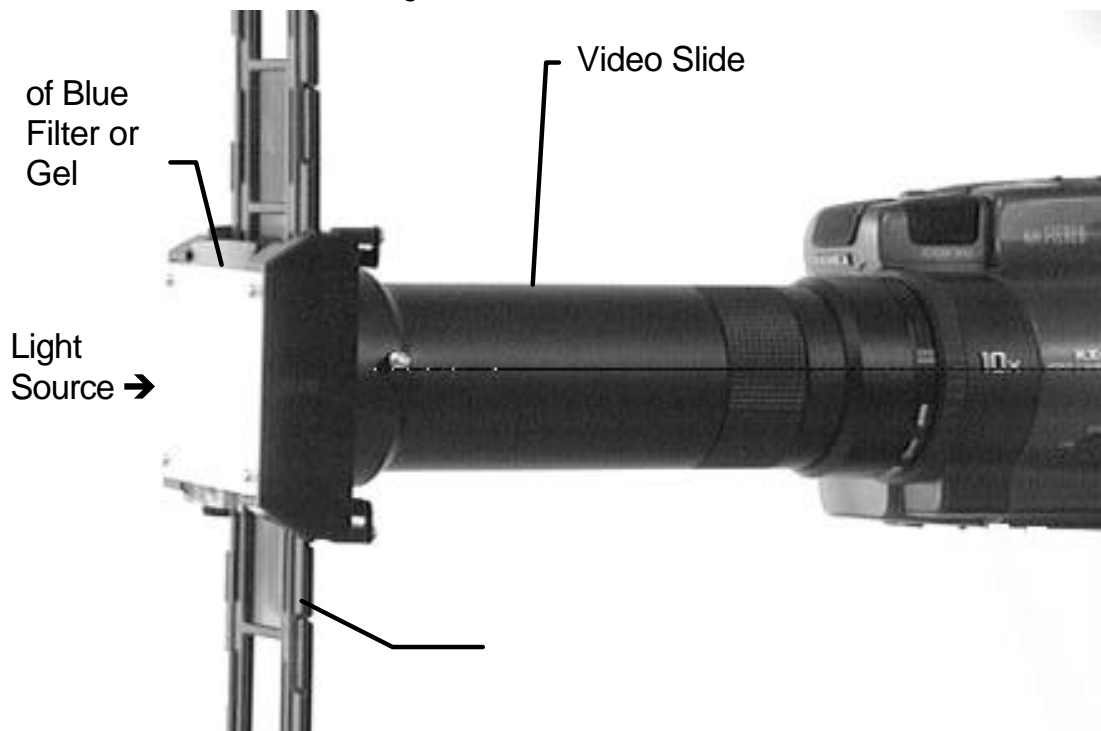
By using your camcorders zoom controls to frame the image, you should now be able to view and/or record your negatives at will. If you wish to record the image please bear in mind that the camcorder itself is actually still seeing a negative image, and so the signal can only be recorded as positive if it is connected to a VCR.

Filters

A colour negative tends to have a pronounced colour cast to it. The actual colour varies according to the type and speed of the film, although it is usually somewhere between yellow and orange. When you convert this from negative to positive with the ViewNeg, the image on screen will also have a colour cast which is opposite to that of the negative, (usually blue). The ViewNeg itself makes no attempt to compensate for any colour casts and so in order to produce a more "correct" colour image on screen it is usually necessary to use a colour correction filter or gel. The filter may be positioned either between the negative and the light source (to produce a coloured light) or between the negative and the camcorder, to correct the light coming from the negative. A blue filter usually works the best, but results can vary between different types of film, different makes and models of camcorder and also the type of light being used.

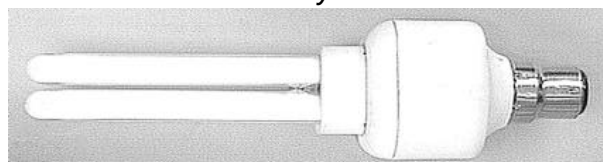
If you have purchased the ViewNeg "Kit" it should have been supplied with one rectangular shaped blue filter, and also a sheet of blue filter gel. The rectangular filter should slot in place just behind the diffuser on the front of most video slide duplicators. If it doesn't fit your particular slide duplicator then use the gel supplied, and simply cut to suit your particular model. You may even wish to use both the filter and the gel together- experiment to see which gives you the best results.

The ViewNeg can also be used with Black & White negatives. It is not normally necessary to use a filter to achieve good results, but do experiment with the camcorder's white balance and exposure settings. If you remove a filter during normal use you may need to adjust your lighting slightly to compensate for the increase in overall brightness.



Light sources

The quality of the picture you obtain will be very dependent upon the light source you are using. Different types of lights produce various colour casts of their own, and this will in turn affect the overall colour of your end result. Also, a photographic negative presents a darker than average image to the camcorder, and if you use a filter this will also absorb some of the available light. For this reason you will usually need a light source much brighter than that used for copying normal transparencies. Ideally position the light quite close to the end of the slide duplicator. A good source of light is one of the "energy saving" types of light bulb- (i.e. a standard bayonet fitting bulb which has a low wattage fluorescent element), as these run cool and can be safely positioned within an inch or so of the duplicator. (Avoid the "comfort" type bulbs which are deliberately biased towards the normal tungsten colour). For short periods of time, a video light also makes a good alternative, preferably about 20W or more used with a freshly charged battery. (Don't use the camcorder's ac power adapter



to directly run a video light, it isn't capable !) Be careful not to get the slide duplicator so close that the bulb may melt it! Another good option (If you do your own colour printing), is to use your enlarger head as a light source, and simply "dial up" the correct filtration as required.

White Balance

If your camcorder has the option, then the "white balance" setting can be used to good effect. There is some difference in the way that various makes and models of camcorders control their white balance, but generally the "indoor" or "tungsten" setting gives the best results. Some camcorders have a "sample & hold" type setting which works very well, but experiment with all of the various settings to see which one works best for you. Some fully automatic camcorders will only adjust for the white balance when they are first switched on, and so you can sometimes improve results by switching the camcorder off and then back on again once everything is set up. Also some models have a white balance sensor which is external (i.e. not metered through the lens). If so, it usually helps to cover the sensor with a negative of a similar film type to that which the camcorder is viewing.

Contrast & Brightness

Sometimes the image may appear to be lacking detail and contrast. This is because the camcorder's automatic exposure system is expecting to see an "average" scene. A negative presents a scene which has a greater than average dark area. If this can't be cured by increasing the light level then manually adjusting the camcorder's exposure by 1 or 2 stops will usually help.

There is also an adjustment on the ViewNeg. marked "BLA", which stands for "Black level adjustment." This has been factory set to cope with most normal scenes, but if you have exhausted all other options then you can adjust this by carefully using a small jewellers flat bladed screwdriver or trimming tool. It will alter the reference point of the overall black level in your image, thus determining how light or dark the end result is. Adjust this as a last resort if you cannot achieve the right result by altering either your lighting type, lighting position, camcorder settings and/or blue filtration.

Common problems and their solutions..

"I can't get a picture at all"

Check that the connections for "video in" and "video out" are correct and that the leads are not damaged.

Check that the "power" LED illuminates on the ViewNeg. If not investigate the PP3 battery or ac adapter.

Check that you can see an image in the camcorder's viewfinder. (Many camcorders will switch themselves off after about five minutes in record pause, but this can usually be overridden by removing the cassette).

"The image seems very grainy"

If you are using a slide duplicator, check that it has a diffused opaque screen on the end near the light source. Some duplicators have removable or hinge down diffuser screens, but for converting negatives it is important to leave it in place. If you are using different means of illuminating the negative, try to diffuse the light a little. Also try using a brighter light or moving the light closer.

"Only part of the picture seems to be in focus"

Check that the negative is being held completely flat, and that the camcorder is "square on" to the negative.

"The picture is all there, but the colours look odd"

Check that you have used a colour conversion filter in line with the slide duplicator.

Try using a brighter light source and/or moving the end of the duplicator nearer to the light source, (be careful of the heat !)

Try using a different white balance setting on the camcorder.

Try using a different blue filter, or two filters together, or even removing it altogether.

Try using a different type of light, e.g. video light instead of a tungsten bulb.

Try altering the camcorders exposure settings.

Check that the TV colour, brightness and contrast controls on the TV are all set normally.

Re-read the previous sections

"Lines keep flashing across the picture" (when inverting a recorded tape)

This can be caused by poor sync pulses coming from the recorded tape. If possible, use processor to clean up the sync pulses. Also, check that the tape heads are clean. If you are copying negatives it is better to use the camcorder as a camera, rather than record the result and invert later.

"The image is almost all white"

If the ViewNeg is in "invert" mode and the on screen image is very light, then the camcorder must be seeing an image that is very dark. Try using a brighter light source, or moving it closer to the negative.

"I get an image, but I can't invert it"

Check your wiring connections- the ViewNeg is designed to work with the composite video connections only, and NOT with the RF (aerial) type of connection.

Summary of Tips

- Use plenty of light
- Compensate for the colour temperature of the light source and the negative
- If using a slide duplicator, make sure that it contains a close up lens. If not, add a close up lens between the camcorder and the duplicator.
- If possible, use the mains adapter to power the camcorder.
- Support both the camcorder and the light source.
- Remember that while the camcorder is on, then the microphone is active. if you have connected your audio and the monitor (TV) volume control is set high then you may well get audio feedback (a loud whistle) so keep the volume low. Also, the sound of whatever you are doing will be recorded along with the picture. If you have one available, the you can get more professional results by routing the signals through a processor. This normally gives you the option to do mood music and add commentary, and if the processor does it, you can fade out after the last still to give a smooth link to the video footage.
- If you are mixing still images with video footage then it is often more effective to intersperse them throughout the footage rather than to put them all in one block.

Finally, it is worth remembering that even with everything correctly adjusted, the end result can only ever reflect the colours that were present in the original picture. As your still camera records the light as it was when the picture was taken, then any colour casts present on the original are always going to be there. Because the TV screen gives a much bigger viewing area than the average colour print, any casts which are present on the original print, (and which may not have been obvious before), can appear emphasised. If you have it available, try to keep the original print handy when you are adjusting the settings for the negative. A photograph taken with flash, or in bright sunlight can sometimes appear slightly blue and photographs taken at dawn or dusk, or indoors without flash can sometimes appear slightly orange. If you take the time and trouble to set everything up correctly you should be rewarded by superb results.

Technical Specification

Operation	The signal inversion is accomplished in two parts; The Luminance component is inverted to put white signals at black level and viceversa. The Chrominance signal is inverted with respect to its colour burst reference. The chroma burst references and sync pulses are left unaffected by only inverting the active part of the video line.
Power	By internal 9v PP3 type battery, or by external DC supply; input voltage $\geq 4v$ Dc on 2.1mm DC socket, centre positive, 40mA or greater