

4970

VIDEO-SCAN-CARD *standard size*

for video, photo-CD, TV, computer, scanner and copier

Technische Daten

Format	DIN A 4 (210x296 mm) standard size
Thickness	1 mm
Material	Polystyrène (frosted) white
Colour	fond neutral gray, DN = 0.75
Densities (log D)	<i>table see overleaf!</i>
Colour Stability	7-8 Blue Wool Scale
washable	



Application

As the **VIDEO-SCAN-CARD** is used in the open air, high demands are put on its durability.

That is the reason why we have made it washable, strong and highly fade-resistant. Nevertheless you should treat it with care. Exposure to the sun or other bright light for some time does not harm it.

Over longer periods, however, you should keep it wrapped up to avoid colour changes over the years.

If the card has got dirty, wash it only with water and a little washing-up liquid or, even better, with a plastic cleansing agent. Never use a solvent or a detergent. Avoid scratches. The card is intended to last a photographer's life-time.

You do not, however, have to be overcareful. The video scan card can stand a lot.

For those of our customers who are irritated by the white border on the card, we recommend the following: Slit the card on the back with a stanley Knife, then you can break it; that way you can remove the white border. The card can also be split in this way.

The white border is a result of production techniques and prevents wear of the grey area.

Problematic of colourspace

The infinite multitude of different devices which could be adjusted optimal by the VIDEO-SCAN-CARD requires basically differentiating in pickup and output units, as usual for computer terminology, to understand things better.

Regard video-camera and scanner corresponding as pickup units, monitor and different print-processes as output units. Colour copiers are both of them. Differentiate further, whether it scans through the lens or in contact.

The provisional result, the digital picture is constant. It would be worked on **device neutral** by software, prepared for output of different equipments. The different pickup- and output units manage a **colourspace** of an existing copy in different ways. Possible this cut maximum densities and deform it in its nuances.

Scanned shots should be overworked by software because of shortcomings of the scan procedure. For example in case a scanner wouldn't be calibrated, or the copy itself is of bad quality.

A printmethod or the kind and speed of the photographic material affects the result.

Some films compounds red and yellow, blue and green pp. otherway. (Photographic emulsions will have **sensibility lacks**.)

This can cause changings in a picture, it can appear **warm** or **cold**, and such shiftings generally can be compensated by software.

Or a scanner itself is more or less sensitive for a definite colour.

Or you would reproduce an original not even exactly. The wellknown example of transformation of an uncompletely matured tomato into a matured or overripped one.

Changing a more or less green-red to a rich red one.

Or saturation of a shots definite colour should be weakend compared with the original.

Here it isn't only for calibration. Then you should aftercare single areas by software.

Colour description isn't a matter of exact science. Here subjective factors of taste plays a role.

Some aspects of colour description remains, which couldn't be objectivated.

One-to-one reproduction isn't possible.

One faktor is the phenomenon of **sentimental values of colours**, or of **psychological reference colours**.

This are the colours most people believe to remember: citrus-yellow, sky-blue, grass-green, brick-red ...

But even here an exactly reminding isn't possible. Polling shows, that ideas, remindings and reality not comes near.

We are all particular when it comes to the rendition of skin tones.

We have an opinion, how skin looks, has to look. Even the variants of different types we are able to recognize if we got some experience and the picture discover more characteristics of the person. A insufficient reproduction or a clumsy manipulation we detect with out knowing the reason. With the picture something seems to us wrong, not realistic, not plausible.

The same we experience if the colour balance isn't ok. If all colours of a photography would be rendered by more weakened saturation as in the original, then our eyes compensates this fault.

But a shifting of colour balance we notice emotional as colourcast.

And if a single colour comes out of balance we realize very soon and suspect it unnatural.

Our cognition in this examples increase from a pure sensitive to a cognitive one.

The colour balance of a shot can be changed in total by filtering or by appropriate software.
A single colour we have to change separately.

Printing

For printout of a pattern it can be necessary to change because of expected problems or effects.

Most photomechanical print processes can't reach the complete shadevalues of a diaphragma, not even of a photographic print.
That is due to the fact of physical borders for paper and ink. Inevitable the shadesize must be compressed for printing.

A slide may reach a size of 2.7 log. Dens (maximum size for example of a lithfilm is 4.0).

Duplication of a slide will reach only a size of 2.4 and the mean values would be steeped this way, colour balance be changed.

If this picture would be printed on glossy paper by a fitting ink, only a density of 2.0 will remain at least.

And if the same picture is be printed on newspaper, the density size reach at least less of 1.3.

A print on photographic paper not even reach far more depth.

Shown on a monitor all appears much more brilliant.

The most important factors for these lostings are paper and ink.

By weakening of glossy, glare and contrast of a paper even its cabability for correct reproduction of the complete shadevalues drop down.

Regarding you achieve less contrast and saturation.

The spotlights of a newspaper picture comes out darker as the halftones was to be expected. Because the paper is less white and the ink wouldn't stay on the surface, but seep into the paper. Paper wouldn't stay as bright as original.

Every offset printing and inkprinter shows to a certain degree increasing growth of dots. This is a tendency of the halftones to grow slightly in printing in comparison to the original. Dotgrowth comes to be seen at earliest in the mean values and in shadows, on poor paper more heavily, because here the colours suck more or faster.

Thus mean values appears dirty.

Because mostly light and dark parts of a photography, black and white, drabs as a result of bad exposure, this phenomenons can cumulate unpleasantly.

This problems can be compensated through steeping of a copy by software before printing. Thus mostly details of medium values would be strengthened, while the mean values would be lightened in relation to monitor description.

Monitor description as a whole should be adjusted little darker as printout later on should appear.

If you like to reach a definite result, you correct the scan by the respective software and judge the result at monitor.

This is one way.

For printing later on you mostly have to make heavy corrections for the print shows effects, you should overcompensate.

For different print methods you for that purpose can create by respective calibration software different curves or maps, to fall back on regarding the efforts.

By the multitude of devices and problems automation isn't hardly possible, do it by hand.

Rescript for a definite method, create by the time a basically transformation table. Now you further on only have to do single corrections.

Grey is not Grey

There is a genuine grey and one that is not genuine. Under certain circumstances you cannot differentiate the two visually. Genuine grey has a diffuse reflection independent of the wavelength of the illumination, as achieved nowhere as ideally as by the FOTOWAND-Grey-card.

The same percentage of light is reflected, independent of the light conditions, independent of the colour of the light.

A non-genuine grey, however, can have a strong varying remission, i.e. the light can be reflected differently according to the colour of the light.

Under certain light conditions genuine and non-genuine grey can seem identical. Seen under different light the difference appears.







The neutral grey is an absolute value.

The exposure meters of most cameras are set to an average value, the middle grey value, also called neutral grey. It corresponds to the average distribution of light of most subjects.

As those values are only average values, these meters are bound to fail in non-average situations. A pale complexion or a winter landscape is inevitably reproduced too darkly; a dark complexion or a twilight atmosphere too lightly.

Most photographers come across this phenomenon when the shining white winter landscape turns out as the most dirty grey.

The exposure meter shows a value which makes the area in question grey; - black turns to grey, i.e. too light, white also turns to grey, i.e. too dark.

<i>subjects</i>	<i>results</i>
 average	 ok
 winter landscape	 too darkly
 twilight atmosphere	 too lightly

In such situations it will help you to substitute the VIDEO-SCAN-CARD or its pre-scan and additional the recalibration on the neutral grey fond of the card

to get the right exposure.

The grey card has to be placed next to the object facing the camera. In the case of a strong deviation of light direction - that is, the direction of the object to the strongest source of light: sun, sky, lamp - from the shooting direction; for example when the sun comes from the side, you hold the grey card between camera and main light source; that is, at an angle in the middle of both directions.

Always hold the exposure meter at a distance of 7 to 10 inches in front of the grey card without throwing a shadow on it.

If you are using the built-in exposure meter of your camera and this has an integral and centre-accentuated metering system, please take care to focus the card in full format, otherwise the measuring will be wrong.

Absolute exact alignment isn't necessary for this referencecard, because of its death reflexion surface irregularities of light incidence doesn't affect the measurement results.

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If you digitalize your shootings later on at a Photo-CD, we recommended for every CD-set to take a shot of the VIDEO-SCAN-CARD.

Thus you lighten later on adjustments.

The same for a set of prints or drawings.

Exposure adjustments of video-cameras and 3D scanner

Start your film sequences or advice adjustment by adjustment of exposure for the neutral gray fond. This exposure adjustment in most cases leads to better results than alignment on any white area. Because it often isn't really neutral.

Even VIDEO cameras and 3D scanners are mostly adjusted on neutral gray like photocameras and only than the contrast range would be seized to optimum. White alignment on a white area which isn't neutral wouldn't result only in colourcasts but even in drabs of the mean values and in weak underexposure.

According to the light situation you should choose daylight or artificial light settings, and as far as possible for your camera, adjust the colour temperature on neutral gray (white balance).

If it don't show this possibility, you either regard soon at the shot the light situation by filtering or later on compensate a colour cast by adjustment of the monitor.

The best lightsituation is normlight standard of 5500° Kelvin. Daylight lamps prduce such a light.

In most cases you should search for a light filtering/monitor adjustment which fits best your device configuration.

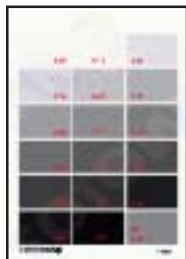
About the possibilities on woking out by software of scanned motifs details follow later.

Calibration of flatbed scanners and colour copiers

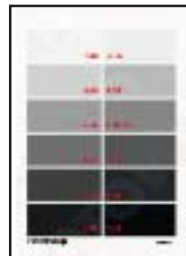
Flatbed sanners or colour copiers can regulate to a certain degree contrast range and colour interpretation. For a certain extend this devices allows even on the side of hardware a shadevalue adjustment. Same for monitors and other output devices.

Fix the optimum basically adjustment and hold it for every cases.
Working out of a provisional result by software is the better and universal way.

Pickup and output devices you calibrate on the three areas, LD, HD, ND of the existing VIDEO-SCAN-CARD or by the help of a greystep card.



Greystep 4960



Greystep 4962

For that move towards correct shade values of output, that is of monitor description or the following printout. For different output devices, monitor or different print methods, build your own calibration table (calibration map) you can fall back on by appropriate software.

Colour scanners with appropriate software beside the calibration of shade values usually has possibilities for calibration of the basic colours yellow, magenta and cyan or red, green and blue. Additional you can use our Colour card.

In praxis for colour adjustment the pastel shades of the VIDEO-SCAN-CARD are more decisive than rich ones, because its reproduction is more critical. On that you realize the wrong adjustment sooner.

Observe on adjustment firstly the colour balance, next saturation. That means you adjust the devices the way that every three values could be seen best and no one is lacking. Saturation can be ignored in favour of the colour balance for the time being. Usually it would be corrected later on by software for a special area.

Calibrate firstly your scanner, followed by the monitor and at least the printer. Working steps take the application of the scanner and its software.

Output devices, printer and monitors

Monitors in general, for example even computer monitors for interpretation of colour scans, could be adjusted simple by the VIDEO-SCAN-CARD for optimum fidelity of reproduction. First adjust on maximum correspondence for the neutral gray fond.

Monitors ever needs regulation in respect of surrounding lights, because the contrast effects changes shown under different illumination. The adjustment of a monitor therefore needs constant working surroundings. Before the monitor correction starts, it should be an hour in action

Adjust contrast range the way, that low density, neutral density and high density (LD, ND, HD) i.e. the area white, neutral gray fond and the area black) are reproduced accordingly (have a look at calibration).

In a next step adjust on the pastel shades, they should even be seen.

Thus you realize a fault in the colour balance very soon. It will be disturbed, if saturation of one of the areas isn't enough. Then you should strengthen these area or you reduce the saturation of the others by software.

If you mainly have portrait- or nude sequences, adjust first the skintone. Thus you go safety that skinshades would be reproduced maximum at best.

Have fun in your work with the VIDEO-SCAN-CARD.

Sudwalde, im November 2005

Colour card 4961



visit our internet-site: <http://fotowand.de>

http://farbkarte@fotowand.com

Log. Density 4970 Video-Scan-Card

Density (log D)	C	M	Y	N
ND fond neutralgray	0.75	0.75	0.75	0.75
LD white	0.07	0.07	0.07	0.07
HD black	1.50	1.50	1.50	1.50
white-yellow	0.08	0.08	0.12	0.08
white-magenta	0.08	0.12	0.08	0.08
white-cyan	0.12	0.08	0.08	0.08
skintone	0.10	0.40	0.82	0.30

skintone card 4931



visit our internet-site: <http://fotowand.de>
[http://4931@fotowand.com](mailto://4931@fotowand.com)

Sudwalde, November 2005

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FOTOWAND
TECHNIC

Dietmar Meisel Tepestraße 20A D-27257 Sudwalde
TEL 04247-1521 FAX 04247-1510 eMail: technic@fotowand.de