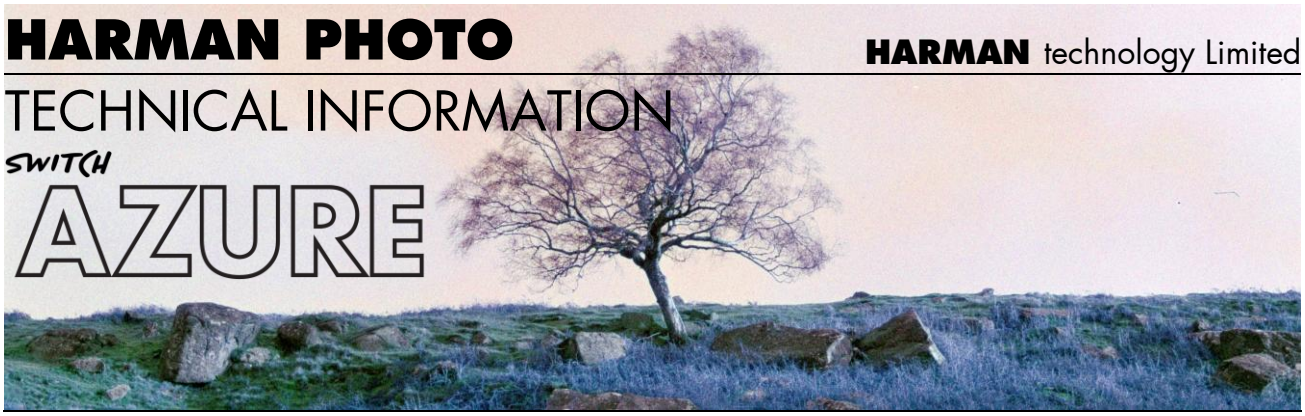
TECHNICAL INFORMATION

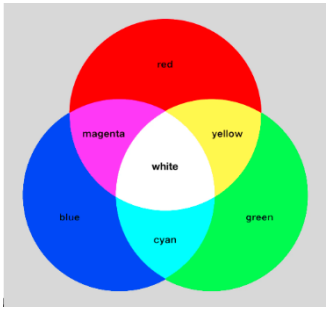


SWITCH AZURE

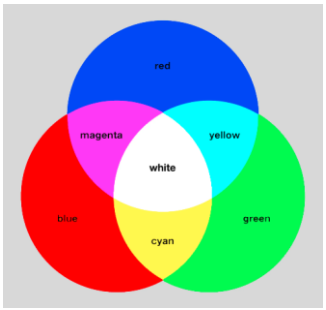
ISO 125/22° C41 PROCESS CREATIVE FILM

HARMAN SWITCH AZURE is a creative film with an alternate colour arrangement. You can expect your colours to 'SWITCH' around rendering images with a very different look and feel. Blue light is recorded in the red channel, green in the green channel, and red in the blue channel.

What to expect...



Std RGB



Azure RGB

Pink and orange sky, blue brickwork, strange coloured fruits, e.g. cyan bananas, blue tomatoes and strawberries, blue skin tones.
Common objects like post boxes, signs, buildings and vehicles are transformed and in the natural world; flowers, trees, landscapes and wildlife become strange and unfamiliar.
Sunsets become inverted with cool blues and purples.

Because very few colours are pure the effects will vary depending on the colours present in the image. Greens are less affected; however, most greens are not pure, and the tone will shift from blue to yellow greens depending on the original hue.

Harman Switch Azure can be used for any photographic subject with results dependent on ambient lighting conditions, colour palette, and exposure. Best results are typically obtained outdoors whilst metering for the mid-tones. On bright days, use of a UV filter will improve clarity.

There are no fixed rules for scanning Azure film, and differing results will be observed depending upon the chosen equipment and method. We have made some suggestions for adjustments to standard parameters. (See later information) White/grey balance can be difficult to establish direct from the scanner, so if desired, further adjustments can be made in your graphics package.

HARMAN Switch Azure is easily processed in C41 photo chemicals. The best overall results are generally obtained at EI/ISO 125 depending on scene brightness and contrast. Some exposure bracketing is advised particularly with high brightness scenes or more challenging exposure conditions.

HARMAN Switch Azure film is coated on 0.125mm/5-mil acetate base and is available in 36 exposure ISO125 DX coded cassettes suitable for all 35mm cameras and in 120 Roll film format, edge numbered 1-19.

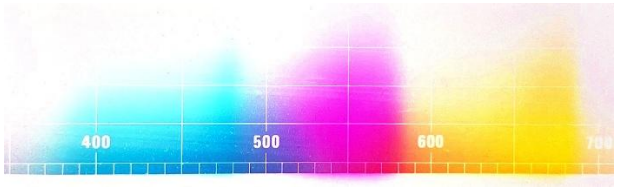
EXPOSURE RATING:

HARMAN Switch Azure film has a speed rating of ISO 125/22° (125ASA, 22DIN, EI 125) to daylight. The speed rating was measured using standard C41 processing and the ISO standard method. Practical evaluations have also shown that the film works best at EI 125 although can be exposed anywhere in the range of EI50 – EI200.

We recommend bracketing your exposures initially to find out the best settings that work for you.

SPECTRAL SENSITIVITY:

Wedge spectrogram to tungsten light.



FILTER FACTORS:

HARMAN Switch Azure film may be used with all types of filters (e.g., Polarising or neutral density filters) in the usual way. Follow the instructions given by the filter manufacturer.

MAKING LONG EXPOSURES:

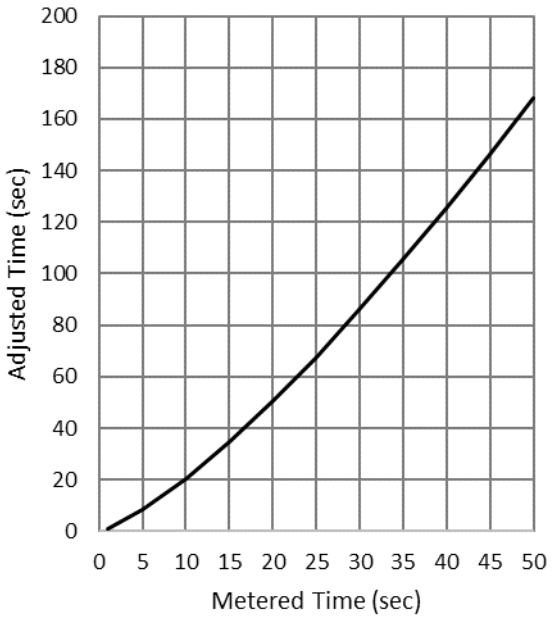
For exposures between 1 and 1/10 000 second, no adjustments are needed for reciprocity law failure.

When exposures longer than 1 second are given, HARMAN Switch Azure, along with other films, needs to be given more exposure than indicated by a meter. Use the graph to calculate the increased exposure time which should be given once the metered time is known.

The graph is based on the formulae $Ta = Tm^{1.31}$

Ta = Adjusted Time

Tm = Metered Time



PROCESSING:

HARMAN Switch Azure film is processed in the standard C41 colour negative film process. This film can be processed alongside all makes of colour negative film.

Safelight recommendations
Handle HARMAN Switch Azure film in total darkness.

C41 type processing
HARMAN Switch Azure film is fully compatible with C41 type processing chemicals, both replenished (e.g. in dip and dunk or roller transport processors) and unreplenished (e.g. in spiral tanks or with Jobo one-shot rotary processing). The film can be put through standard C41 lines with no adjustment to processing speed, temperature, or replenishment rates.

Drying
If processing by hand and to avoid drying marks, use a clean squeegee or chamois cloth to wipe the film before hanging it to dry. Dry the film at 30–40°C/86-104°F in a drying cabinet or at room temperature in a clean dust-free area.

Machine processing – use default C41 machine settings.

Push processing
Push processing is not recommended for HARMAN Switch Azure.

STORAGE:

Unexposed Film
For immediate use, store unexposed film in the same way as other colour films, i.e., in a cool (10–20°C/50–68°F), dry place in its original packaging.
For longer term storage, HARMAN Switch Azure may be stored in a fridge/freezer but allow plenty of time for the film to acclimatise prior to use.

Exposed film
Once exposed, process HARMAN Switch Azure as soon as practical. Exposed films should always be stored in cool, dry conditions - as recommended above.

Negatives
Store processed negatives in a cool (10–20°C/50-68°F), dry place, in the dark. Suitable storage sleeves include those made of cellulose triacetate, Mylar, paper (pH6.5–7.5) or inert polyester.

Correctly processed HARMAN Switch Azure negatives usually have a magenta / purple tint and red edge signing, although the exact image colour will depend on the processing method.

Emulsion side identification
Unlike some negatives HARMAN Switch Azure emulsion has a glossy surface. To determine the emulsion side, view the negatives towards a light source, with the edge signing reading correctly the emulsion is facing away.

SCANNING & PRINTING:

Print making
HARMAN Switch Azure negatives are printed in the same way as other colour C41 films. Either via scanned negatives or direct analogue exposure.

SCANNING

Unlike more traditional colour negative films, HARMAN Switch Azure does not have an orange mask. This can affect scanner response, and some adjustment may therefore be required to achieve the optimum results. Some recommendations for best settings are shown below. These scanning settings were developed in conjunction with our in-house lab HARMANLab.com

NB. As with other C41 process films, Digital Image Correction and Enhancement (Digital ICE) can be used to remove dust and scratches automatically from the image.

The following table summarises what can be expected

Scanner / Model	Method	Post Corrections	Image
Fuji SP3000	Full Auto	None	Blue/Cyan tint lower contrast
"	Harman	None	Improved contrast slightly warmer better separation
"	Harman	Tone correction e.g. Photoshop	Improved white balance and separation
Noritsu HS1800	Full Auto	None	Orange / Pink cast – sometimes inconsistent
"	Harman	None	More consistent response frame to frame – improved white balance
"	Harman	Tone correction e.g. Photoshop	Improved white balance and separation
Epson v850	Auto	None	Variable results – Reversal method recommended.
"	Reversal	Negative lab pro / Photoshop inversion	Good white / grey balance – improved separation.
SLR	Reversal	Negative lab pro / Photoshop inversion	Good white / grey balance – improved separation.

Fujifilm SP3000

The Fujifilm SP3000 is a very popular scanner and can be used on the default settings, however better results are obtained by creating a separate channel with some adjustments to contrast and colour saturation.
The Fuji SP3000 may not detect the red edge signing reliably but should otherwise read the film ok.

Recommended settings Scanned as Colour Negative on Fuji SP3000

Below are our starting point recommendations. Nb. many labs will have their own preferred workflow, so these should be treated as guidance only. These settings can be assigned to a custom channel as follows.

Main Menu > Setup & Maintenance > Password "7777" > Print condition set-up & check > Custom setting register.
Assign the settings to any free channel and save under appropriate name e.g., Switch Azure – please see the Scanner manual for further information.

Channel Setting

All defaults except:

Tone Correction

Tone adjustment = All Hard

Colour Balance and density – Starting points

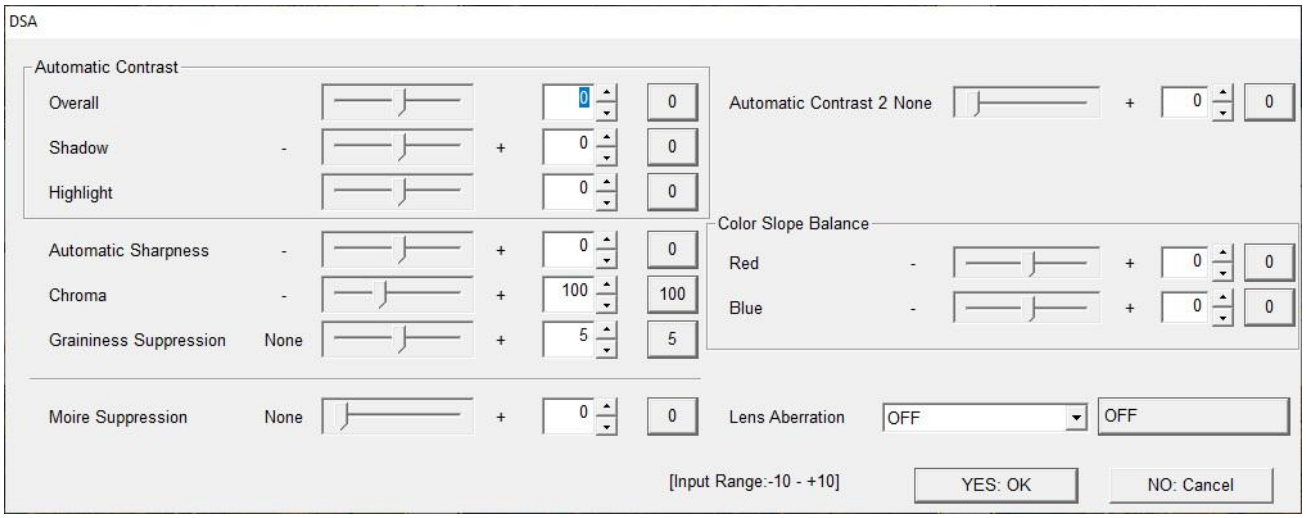
C= -2, **M**= 0, **Y**= +2
Density = Adjust as required.

As part of your routine workflow, you may wish to apply final corrections in post depending on the image/graphics workflow you are using. For example, "Auto-Tone" correction in Photoshop normalises the colour channels and improves colour separation.
Differences between machines exist and not all scanners have the same "auto" default settings so some experimentation may be required.

Noritsu HS1800, LS600, LS1100

Noritsu scanners can easily be configured to work with HARMAN Switch Azure. Many labs will have a preferred configuration. Below is our recommended starting point to give good results.

DSA Settings



Note the auto contrast 2 function is disabled.

Colour Balance and density – Starting points
C= **+1,** M=**0,** Y= **-2**, Density = Adjust as required.

Settings can be adjusted during the workflow and applied to all frames using the hold function, or by creation of a print channel specifically for HARMAN Switch Azure. To create a print channel, you must log in with the service menu password. (See below)

Differences between machines exist as not all scanners have the same global settings so some experimentation may be required.

In the function menu - Press F1 then F9, enter the service password in the prompt "2260".
Entering the service password will now allow you to edit and save new print channels.
Please see your operation manual for your scanner / EZ Controller for more information.

It is also possible to save colour corrections within the print channel – consult the scanner technical guide for more information on how to do this.

Epson flatbed scanners

Use full autoexposure and auto colour.
For improved results, we can recommend scanning as reversal (slide) film and inverting in software such as Negative lab pro or Adobe photoshop. This will generally achieve the best results possible and give maximum control.

Digital Camera Scanning

Please follow your normal workflow for scanning with a digital camera. Using your conversion software, you can adjust the parameters to suit your tastes. We recommend use of Negative lab pro or Adobe Photoshop for inverting the negatives. Results are like those obtained by other reversal scanning methods.

Note on reversal Scanning

Scanning as reversal and using a graphics package to handle the inversions will generally give the best, most consistent results, however it may sometimes "Over normalise" the images and reduce the character of this creative film. Experimentation with conversion settings, in particular white balance may be required to fine tune to desired effect when using this film.

Other Scanners

For scanners not listed above, as a guide use the following settings.

- Auto exposure / Colour correction = On
- Sharpening – Standard

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