Polarization issues when shooting stereoscopic 3D images

In a professional Stereo 3D production most shots are recorded with a mirror rig. The high quality polished, multicoated, dielectric beamsplitter mirrors of P+S TECHNIK split the light very exactly in half 50/50.

The physics of the dielectric beamsplitter mirror causes also a partial splitting of polarization. In a scene with un-polarized light this causes no difference between left and right image.

Split screen example of different images/artefacts due to polarisation

However, there are many situations where polarized light can appear:

- Blue sky filmed in 90° angle to the sun
- Reflections (on water, glass, leather, shiny surfaces...)
- LCD screens
- Polarized light sources
- …

In these situations the difference between the right and the left images may cause artefacts.

Quarterwave Filter for P+S TECHNIK 3D Rigs

To reduce these polarization artefacts P+S TECHNIK offers a special front filter for its 3D Rigs. This quarterwave filter (also known as lambda/4 waveplate or technically incorrect “depolarizer”) changes the angle of polarization. The result in most situations:

A severe reduction of polarization artefacts!

The great news about the P+S TECHNIK Quarterwave Filter is the minimal loss of light. The exposure is practically the same than without the filter.

The high quality Quarterwave Filter of P+S TECHNIK is made from optical glass with a high quality coating to reduce flare.

Another feature of the filter is its protective function in front of the beamsplitter mirror. The filter closes the mirror box on the front. Since the filter is laminated between the optical glasses it offers a better protection than normal glass. Similar to the safety glass used in cars. The quarterwave retarder filter can be mounted and dismantled very quickly with a special quick lock mechanism.

Features of the P+S TECHNIK Quarterwave Filter

- Severe reduction of polarization artefacts between left and right image
- Almost no light loss
- High quality coated optical glass
- Protection for the beamsplitter mirror
- Quick lock mounting mechanism