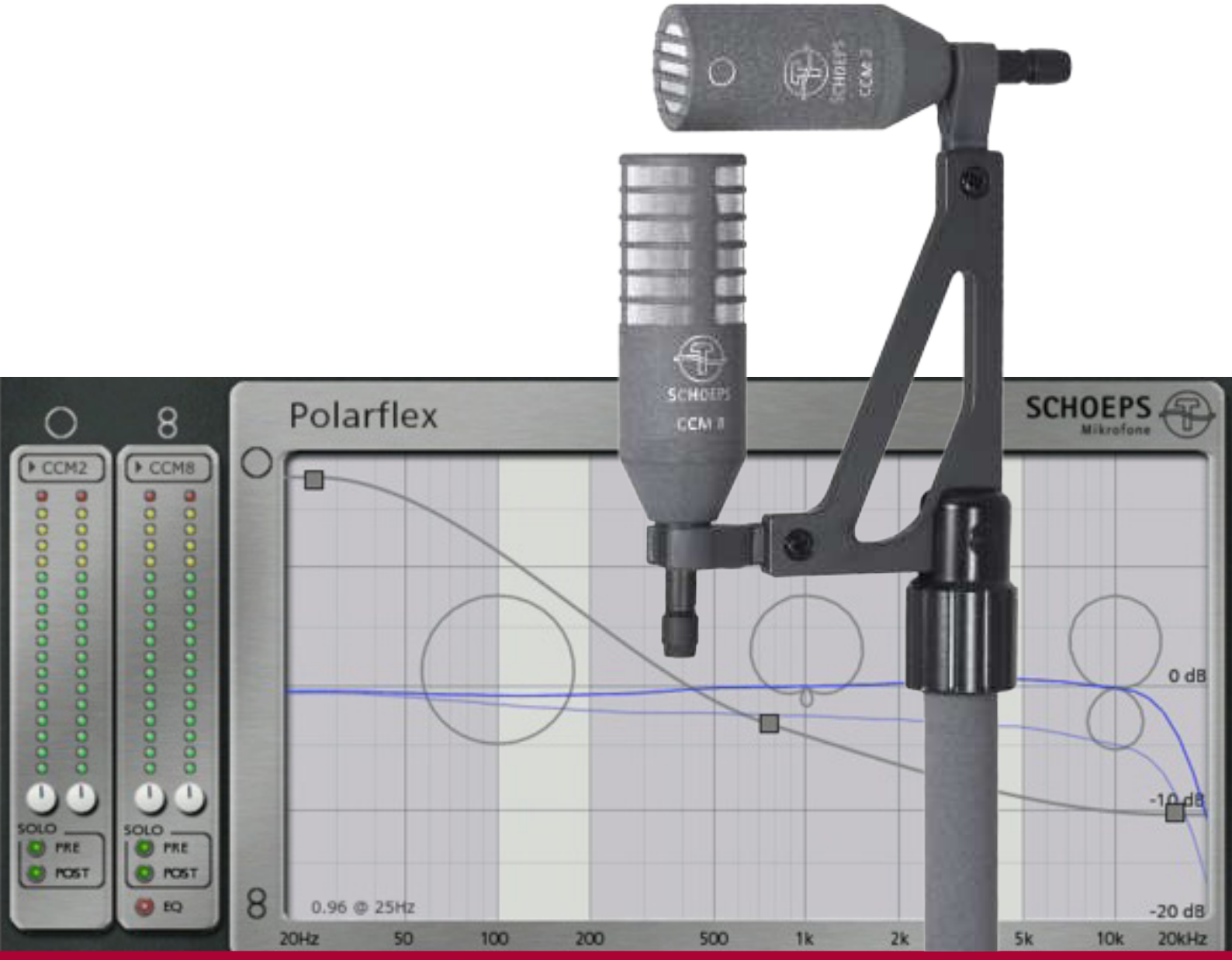
SCHOEPS Mikrofone

# Polarflex




# New sonic characteristics

# Polarflex – Application

## Applications

The Polarflex technique has been successfully used in numerous applications. Its particular strength is the possibility of fine-tuning the sound after the microphones have been installed, or even after the recording has been made.

Mono

As a vocal microphone it offers distinct possibilities for playing around with the sound color and proximity effect. Being able to bring in more or less diffuse field in a certain frequency band offers the possibility to manipulate the perceived sound color in a very elegant way. For example, a setting as in the screenshot above leads to the typical "warm" sound that resembles a large-diaphragm microphone. The reason is that some old, doublediaphragm microphones do have a wider polar pattern at low frequencies and therefore record more low frequencies from the room.

Stereo

Polarflex is ideal for use as a spot or main microphone pair. By altering the polar patterns the stereophonic image can be changed and thus optimized with the microphone already installed. In particular, it makes sense to use more Fig-8 portions at lower frequencies. The channel separation at lower frequencies is important for spatial perception. A "small a/b" setup of two omnidirectional microphones actually has a too low channel separation at low frequencies due to their long wavelengths relative to the microphone spacing.

Straus-Paket

A combination of an omni and a cardioid microphone is sometimes called a "Straus-Paket". This microphone arrangement was formerly used by German Tonmeister Volker Straus in order to create a wide-cardioid-like pattern, since no native widecardioid such as the SCHOEPS MK 21 existed at that time*.

The Polarflex plug-in supports an interesting variant of the Straus-Paket. To use this approach, set up an omni (CCM 2, 2S or 2H) and a cardioid (CCM 4 or 4V), and indicate these choices in the "Microphone choice" dropdown menu at the left top of the plug-in window.

*www.sengpielaudio.com

## Microphone setup

Arrange an omni and a figure-8 microphone such that the membranes are coincident, i.e. there should be no offset in the horizontal plane for front-arriving sound sources. For two-channel stereo, two Polar-flex microphone pairs should be set up.

For the SCHOEPS CCM series, the A2P CCM mount is available.

Polarflex CCM arrangement:
- CCM 8
- CCM 2
- A2P CCM



When using Colette microphones, a setup using the capsule swivel GVC is recommended:

Polarflex Colette arrangement:
- CMC 6 + MK 8
- CMC 6 + GVC 2S
- SG 22 mod double clip



If the "Straus-Paket" variant is chosen rather than the classical Polarflex, an omni and a cardioid should be set up side by side. Using CCM, the suspension SGMSC can be used. With Colette microphones, a double clip such as the SG 22 mod or the AMS is optimal.

"Straus-Paket" consisting of MK 2H omni and MK 4 cardioid (+CMC 6) with suspension AMS.

For the CCM series, use the suspension SGMSC



SCHOEPS Mikrofone

# Polarflex – Technology

## SCHOEPS Polarflex technology

With **SCHOEPS** Polarflex technology you can combine two microphones to create new sonic characteristics. All you need is a Polarflex microphone set and the Polarflex Plug-in.

- Based on **SCHOEPS**' Polarflex technology, introduced in 1998
- Create novel polar patterns and sonic characteristics
- Adjust the sound after (or while) recording
- Available in mono (1 output) or stereo mode (2 outputs); stereo mode offers manipulation of the stereo image and room sound
- Optimally suited for use as a vocal microphone, for spot pickup of piano, or for highly customizable, overall stereo pickup (check the sound samples at www.schoeps.de/polarflex)
- Plug-in is available for free: www.schoeps.de/polarflex
- Supports VST and RTAS; PC and Mac compatible

## What makes one microphone sound different from another?

Different microphones sound different mainly because they pick up direct sound and diffuse sound differently. The differences apply both to the relative level of the two (compared to the direct sound, an omni picks up more diffuse sound than a cardioid) and the sound color of each.

Hence, to create a particular „sound" for a microphone, it is necessary to determine the pickup of the diffuse field as well as the direct sound. This is exactly what the Polarflex plug-in does. It is not simply an equalizer (which would uniformly affect the entire signal). Instead, the pickup of the diffuse sound field is controlled separately.

## How the plug-in works

With the Polarflex plug-in it is possible to intelligently mix two capsules such that a totally new pattern with a unique sound is created.

Now, what happens in the plug-in?

The Polarflex plug-in mixes the outputs of two capsules (omni and figure-8) in three different frequency bands, such that the level and frequency response of the diffuse sound (and correspondingly, the directivity of the microphone at various frequencies) is altered.

So that every possible setting leads to a potentially useful result, the plug-in automatically maintains a constant overall sensitivity, like a panning knob.

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## Using the plug-in

The plug-in is very simple to use. On the left side of its window you can monitor the input signals and use the gain knobs to keep their levels on the scale. Optionally, you can check the „EQ" checkbox to compensate for the inherent LF rolloff of the figure-8.

In the large window, the thick gray line with the three square buttons controls the mix ratio between the omni (top) and figure-8 signals (bottom) throughout the frequency range. You can raise and lower the buttons to set the mix ratios. Moving the buttons to the left or right sets the boundaries of the three frequency regions in which the mixing occurs.

You can listen to the result in real time.

# Polarflex - Plug-in

## Examples

- When the gray line is all the way at the top of the window, only the omni signal is present in the output.
- When the line is in the middle, the result will be a cardioid, which is the sum of an omni and a figure-8 pattern mixed in equal proportions.
- If you choose a wide cardioid at low frequencies, a cardioid at middle frequencies and a hypercardioid at high frequencies, the sound will mimic that of a dual-membrane, large-diaphragm condenser microphone.
- Try different settings in stereo mode. By altering the mixing ratio, the correlation of the diffuse recorded sound is varied in real time. This offers a powerful means to vary the room sound ofyour stereo pickup.

