## Model 228e Spatial System Matrix

firmware version 1.0.3

The Spatial System Matrix is a six channel matrix mixer capable of classic quadraphony. The module includes a breakout panel for the four outputs and headphone output. All output busses are mixed to the headphone output in mono.

The layout includes the 6x4 matrix where every node has a dedicated control pot. There are six audio inputs, and there are five independent CV inputs. The control section on the bottom largely serves to assign the CV to the various nodes, and to select the different modes of the mixer.

The *control source* encoder selects from the five CV inputs. The *signal node* encoder is then used to assign that CV value to the various or multiple nodes of the matrix. The LEDs provide visual feedback for the nodes assignments of each of the CV sources. The middle encoder functions as an attenuverter for the CV amount at each node. Pushing the middle encoder allows the extreme ranges of attenuvertion to be cyclically selected. Holding the *func* button followed by *control source* encoder clears all destinations for the selected control input.

The mixer has two main modes *(matrix* and *radar)* which are selected by compressing the *signal node* encoder. The modes can be selected for each audio input channel independently. The LEDs adjacent to column A change status to indicate the selected mode.

In *matrix* mode, the mixer is a straightforward 6 channel matrix mixer, and can be used in mono, stereo, dual stereo, triphonic or quadraphonic output configurations.

Any of the input channels can be switched into *radar* mode. The corresponding LED becomes green when *radar* mode is activated. When in *radar* mode, the pots in the selected row acquire an alternative meaning, indicated on the faceplate. *Amp* (short for amplitude) controls the channel's volume. *Azi* (short for azimuth) sets a direction or spatial coordinate within the quadraphonic field. *Bell* then defines the range or width for panning around the center point set by the azimuth. *Roll* controls the rate of autopanning. It functions like a quadraphonic scan-and-pan.

Designed into *radar* mode is a special submode which imitates the swirl of the 227e mixer. This *swirl* mode is activated when in *radar* mode by adjusting the *bell* knob to its full value completely clockwise. *Swirl* mode is indicated by a yellow LED. In this mode, *roll* controls the swirl rate and direction. *Azi* defines the proximity or the acoustical perception of the distance of the sound. Note that *swirl* mode cannot be toggled by CV. It is engaged solely by the *bell* knob. The *amp* knob is still responsible for the overall channel volume.

Holding the *func* button followed by *signal node* encoder switches the solo on the current input channel. Turn the *signal node* encoder to select the channel.

All current settings can be stored and recalled by the 200e compatible preset manager. Long press on the *control source* encoder toggles the remote status.

## **Global Parameters**

To access global parameters, hold the *func* button and push the middle encoder to enter the system menu.