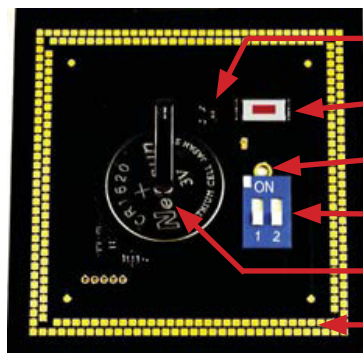## 256MEA-SG

256MEA Signal Generator for MEA2100-256-Systems and for USB-MEA256-System

- LED
- Control button
- Grounding socket
- DIP switch
- Battery
- Gold contact pads

Please ground the 256MEA-SG with the provided cable.

256MEA Signal Generator is a convenient tool for MEA256-System users. Use the 256MEA-SG instead of setting up an experiment with biological sample for training, controlling, and troubleshooting purposes. This reduces the number of animal experiments and saves laboratory equipment.

The position of DIP switch 1 and DIP switch 2 define the catagory of the signal, sine waves or real signals in digitized form. To change signals within one category, press the control button so many times (n) - one press slowly after the other -which are needed to create the desired signal of that category.

Please consider the different levels of amplitudes in electrode displays in direct vicinity regarding to the contact pads of the 256MEA-SG, but not to the electrode displays. The amplitude alternates in a range of 100 % and 50 %. If there is a short circuit between neighbor pads of contact pads, all electrodes will show the same averaged amplitude.
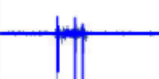
Switch on: Press control button. **Switch off:** Press control button longer than two seconds.
Table: DIP switch position, number of control button presses and corresponding signals

Switch 1	Switch 2	Control button presses n times	Signal	
OFF	OFF	1 = 256MEA-SG ON	Sinus	0.005 Hz
		2	Sinus	0.01 Hz
		3	Sinus	0.03 Hz
		4	Sinus	1.25 Hz
		5	Sinus	12.5 Hz
ON	OFF	1 = 256EA-SG ON	EPSP	
		2	Population Spike	
		3	Spikes	
OFF	ON	1 = 256MEA-SG ON	ECG Atrium	
		2	ECG Ventricle	
		3	Ventricle FP	
ON	ON	1 = 256MEA-SG ON	ERG with Spikes	

256MEA-SG

256MEA Signal Generator for MEA2100-256-Systems and for USB-MEA256-System

Switch 1	Switch 2	Press Button slowly n times	Signal Source	Signal Type
OFF	OFF	1 The MEA-SG is on	Artifical sine waves (1.75 mV) 0.005 Hz Note: Sine waves < 1 Hz might not be visible because of the hardware filter bandwidth.	
		2	Sine wave 0.01 Hz	
		3	Sine wave 0.03 Hz	
		4	Sine wave 1.23 Hz	
		5	Sine wave 12.5 Hz	
ON	OFF	1 The MEA-SG is on	Hippocampal slice EPSP	
		2	Hippocampal slice Population spikes	
		3	Hippocampal neurons Spikes	
OFF	ON	1 The MEA-SG is on	Heart ECG Atrium	
		2	Heart ECG Ventricle	
		3	Cardiomyocytes Vetricle FP	
ON	ON	1 The MEA-SG is on	Retina ERG with spike	