

SC8x8BC

Signal Collector with Blanking Circuit for eight 8-Channel Miniature Preamplifiers MPA8I for Use with ME2100- or (USB-) ME-Systems

Channel Layout

Use and Operation

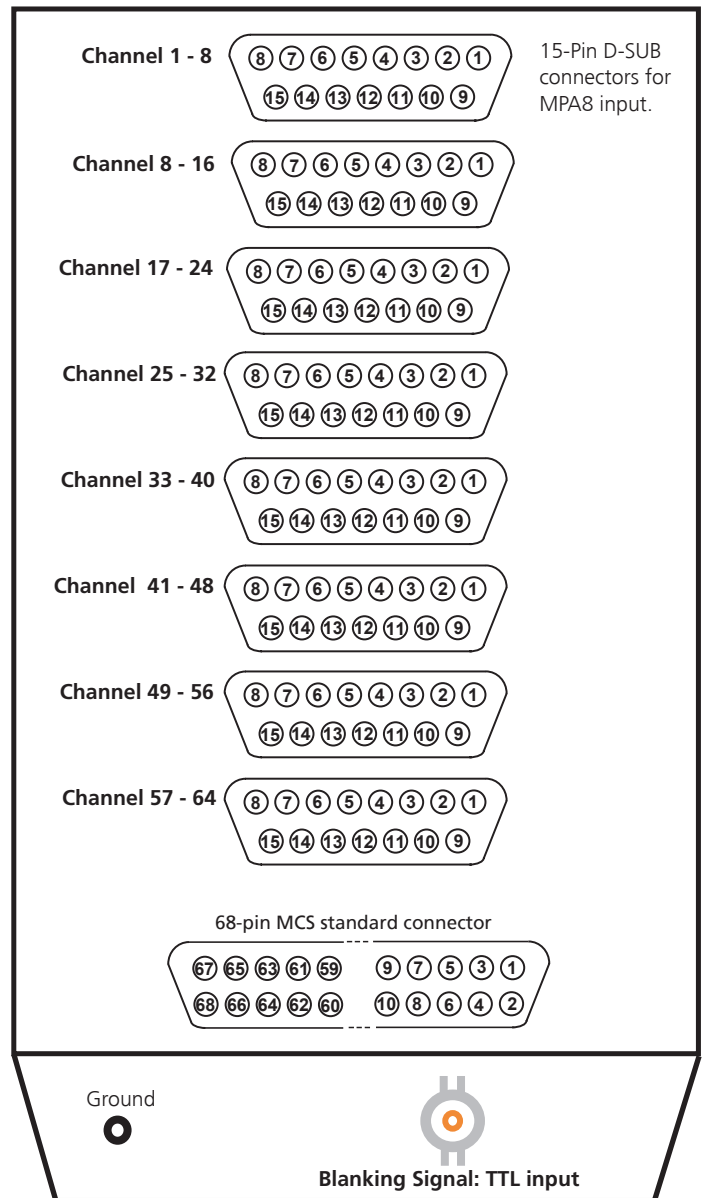
The SC8x8 is a Signal Collector for up to eight 8-Channel Miniature-Preamplifiers MPA8I.

The 8 x 8 input channels (D-Sub 15 connector) are collected and can be connected to the following amplifier via 68-pin MCS high grade cable.

The SC8x8 includes a 0.08 Hz high pass filter for removing DC offsets and a blanking circuit for stimulus artifact suppression.

Please use terminal plugs for closing unused inputs to prevent picking up noise.

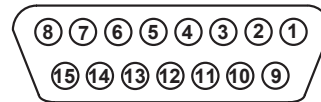
Terminal plug for 15-Pin D-Sub connector



SC8x8BC

Pin Layout

Input: 15-Pin D-SUB Connector

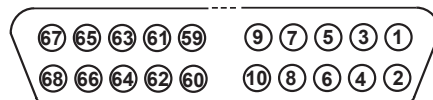


Warning

The device may only be used together with ME2100- or (USB-) ME-Systems from Multi Channel Systems MCS GmbH, and only for the specified purpose. Damage of the device and even fatal injuries can result from improper use.

Pin	Channel
Pin 1	Ground
Pin 9	Reference Input
Pin 2	Channel 1
Pin 10	Channel 2
Pin 3	Channel 3
Pin 11	Channel 4
Pin 4	Channel 5
Pin 12	Channel 6
Pin 5	Channel 7
Pin 13	Channel 8
Pin 6	Ground
Pin 14	Ground
Pin 7	Ground
Pin 15	Positive supply voltage
Pin 8	Negative supply voltage

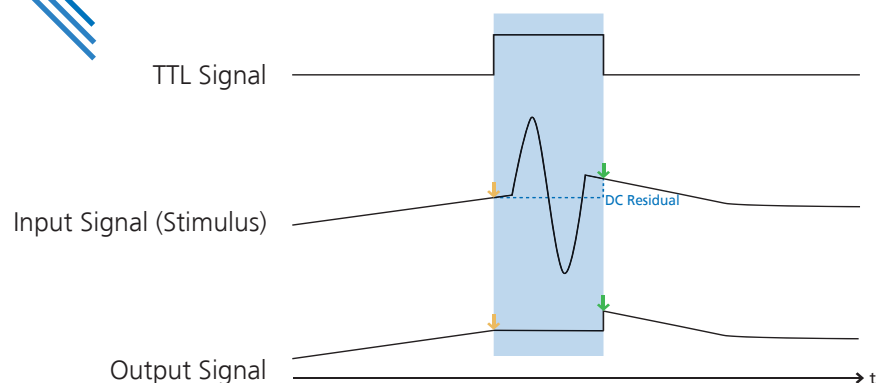
Output: 68-Pin MCS Standard Connector



Pin	Channel
Pin 1	Ground
Pin 2	Reference Output
Pin 3 to 66	Channel 1 to 64
Pin 67	Positive supply voltage
Pin 68	Negative supply voltage

SC8x8BC

Signal Collector with Blanking Circuit for eight 8-Channel Miniature Preamplifiers MPA8I for Use with ME2100- or (USB-) ME-Systems



Use and Operation

The SC8x8BC is a Signal Collector with blanking circuit for up to eight MPA8I preamplifiers. The 8 x 8 input channels are collected, and then connected to the following amplifier via 68-pin MCS high grade cable.

The SC8x8BC includes a 0.08 Hz high pass filter for removing DC offsets.

An internal power supply with 5 V stabilizes the power for all eight MPA8Is. The additional ground on the front panel ensures perfect grounding. The SC8x8BC features a blanking circuit. Without stimulus artifact suppression, when you apply a stimulus input to your filter amplifier, the amplifier gets saturated and needs to recover. The recovering time depends on the filter amplifier type. It is roughly the time constant of the high pass filter multiplied by ten. During this time, the data output is distorted.

With the blanking circuit, the voltage outputs are held constant during the time when the blanking input is active. Thus, the stimulus artefacts does not pass through the box and the following filter amplifier does not get saturated. When the blanking signal has stopped, the channel output follows the input signal again.

Blanking is triggered by a TTL signal. If you use a STG (stimulus generator) for stimulation, you can set up the trigger in MC_Stimulus II software and apply it with a STG via the Sync Out connector. Make sure to start the blanking TTL signal shortly before the stimulus, and stop it shortly after the stimulus to remove the complete stimulus artefact. After the trigger event, the output channels are reconnected to the input channels.

This event is accompanied by three minor artifact signals:

1. Small switch artifact, which is caused by the switch itself (less than 20 mV).
2. Possible DC residual (depending on the electrodes and DC balance of the stimulus signal).
3. Possible switch feedback (cross talk between TTL blanking pulse and the ground line).

The time constant of the device, that is, the time it needs to reach the current voltage level again is 22 ms.

November 2019