

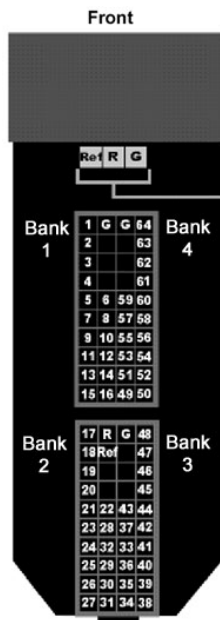
## High Impedance Headstages

Use with high impedance micro electrode and microwire electrodes with recommended input impedances from 20 kOhm to 5 Mohm [unless otherwise noted] and connect to the RA4PA or RA16PA preamplifier[s] via the 25 pin connector[s] or to a PZ series preamplifier via mini 26-pin connectors. **Note:** The numbers on the pinout diagrams refer to the channel connections to the amplifier.

**Important!:** When using multiple headstages, ensure that a single ground is used for all headstages. This will avoid unnecessary noise contamination in recordings.

**Tip:** When using the NeuroNexus probes, keep in mind that there are several versions of each of the probes. Check the NeuroNexus Website for pin diagrams and see the MCMaP component in the RpvdsEx Manual for a description and examples on how to re-map channel numbers.

### NN64AC



Pins for jumper connections.

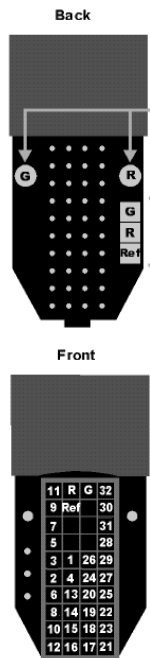
### 64 Channel Acute Headstage

**Input connector:** 40-pin

**Mates with:** Samtec MOLC header

Connects to a PZ series preamplifier via four mini 26-pin connectors or to four RA16PA preamplifiers via four DB25 connectors. Each connector carries the signals for 16 channels, power and ground. Therefore, each connector can be connected independently. The connector labeled Bank-1 carries channels 1-16, Bank-2 carries 17-32, etc. The ground channel should either be tied to an external ground or to the reference for a single ended input.

### NN32AC



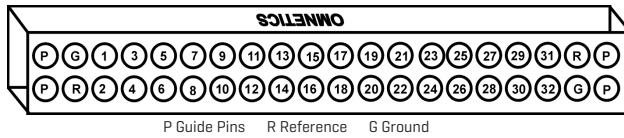
### 32 Channel Acute Headstage

**Input connector:** 40-pin

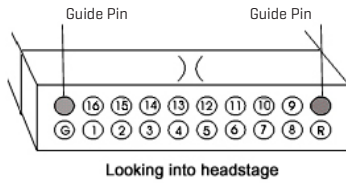
**Mates with:** Samtec MOLC header

Connects to two RA16PA preamplifiers via two 25-pin connectors. Connector A carries the signals for channels 1-16, power and ground. This connector must be connected whether you are acquiring data from one of these channels or not. The ground channel should either be tied to an external device or to the reference for a single ended input.

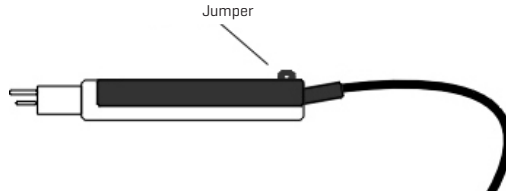
**LP32CH**  
[Low-Profile]



**LP16CH**  
[Low-Profile]



**LP32CH / LP16CH**

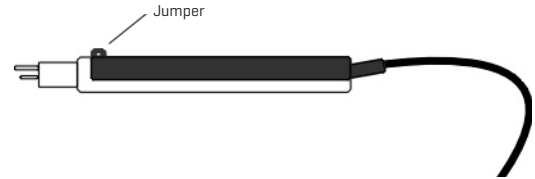


**32 and 16 Channel Chronic Headstages**

**Input connector:** 40- or 18-pin Nano  
**Mates with:** Omnetics Nano-pin connector

By default, inputs are single ended, with Ref and GND tied together. A jumper is provided to give the user the option of making the inputs differential. To make the inputs differential, cut the jumper pictured above.

**RA16CH**



**RA16CH**

**RA16AC**



**16 Channel Acute Headstage**

**Input connector:** 18-pin Dip  
**Mates with:** 0.5 mm pins

**Tip:** to protect the headstage from unnecessary wear and tear, connect electrodes to an 18-pin socket and then connect the socket to the headstage.

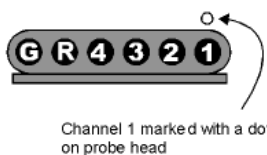
**RA16AC4**  
[4x Gain]

Can be used with any standard high impedance metal electrodes. Designed to provide a direct connection to NeuroNexus electrodes.

RA16AC4 for use with electrodes with a recommended impedance range of 20 kOhm to 300 kOhm.

**4 Channel Acute Headstages**

**RA4AC1**



**Input connector:** 6-pin  
**Mates with:** 0.76 mm pins

Used with standard high impedance metal electrodes and connects to the RA4PA 4-channel Medusa preamplifier.

**RA4AC4**  
[4x Gain]



Available with flying leads. When connecting to the headstage, note that the silver dots marking channel 1 line up. The colors of the lead wires correspond to the headstage channels as shown in the table to the right.

Black	1
Red	2
Orange	3
Yellow	4
Blue	Reference
Green	Ground



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