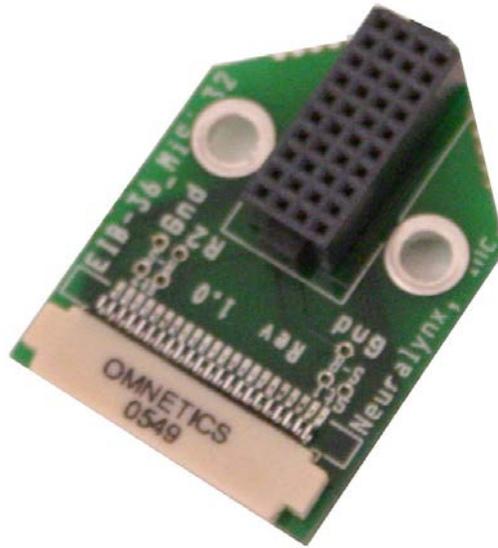




Neuralynx
High Density Electrophysiology Recording Systems



ADPT-HS36-N2T-32A User Manual

Adapter for 32 Channel NeuroNexus Probe

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Table of Contents

1	Adapter Connections.....	3
1.1	HS-36 Connection	3
1.2	ADPT-HS36-N2T-32A Mounting	3
1.3	Electrode Connection	3
1.4	Adapter Reuse	3
1.5	Connector Pin Channel Ordering on the NeuroNexus 32 channel Probe	7
1.1	HS-36 Connection	3
1.2	ADPT-HS36-N2T-32A Mounting	3
1.3	Electrode Connection	3
1.4	Adapter Reuse	3

Table of Figures

Figure 1	Connectors on the ADPT-HS36-N2T-32A	4
Figure 2	40 Pin Connector Pin Assignments	5
Figure 3	NeuroNexus Probe channel numbering.....	7
Figure 4	Neuralynx HS-36 Input Channel Numbering.....	8
Figure 5	Standard Neuralynx Channel Numbering	9

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1 Adapter Connections

The Electrode Interface Board (ADPT-HS36-N2T-32A) is mounted to a Neuralynx Stereotaxic adapter and connects a NeuroNexus 32 channel Silicon Electrode Probe to a Neuralynx HS-36 headstage preamplifier. The ADPT-HS36-N2T-32A does not contain any active electronics and can pass signals in either direction. The HS-36 will define the signal direction via its buffer amplifiers. This adapter is to be used with NeuroNexus A style probes only.

1.1 HS-36 Connection

The HS-36 will only mount to the ADPT-HS36-N2T-32A in only one direction as defined by the HS-36 Omnetics connector's alignment pins.

1.2 ADPT-HS36-N2T-32A Mounting

The ADPT-HS36-N2T-32A is designed for mounting to a Neuralynx Stereotaxic block. The two screw mounting holes are used to secure this device to the holder.

1.3 Electrode Connection

The NeuroNexus 32 channel probe contains the mating 40 pin connector and is mated before recording is started.

1.4 Adapter Reuse

This adapter is designed to be used many times. The Samtec connector is rated for 500 insertions mating cycles.

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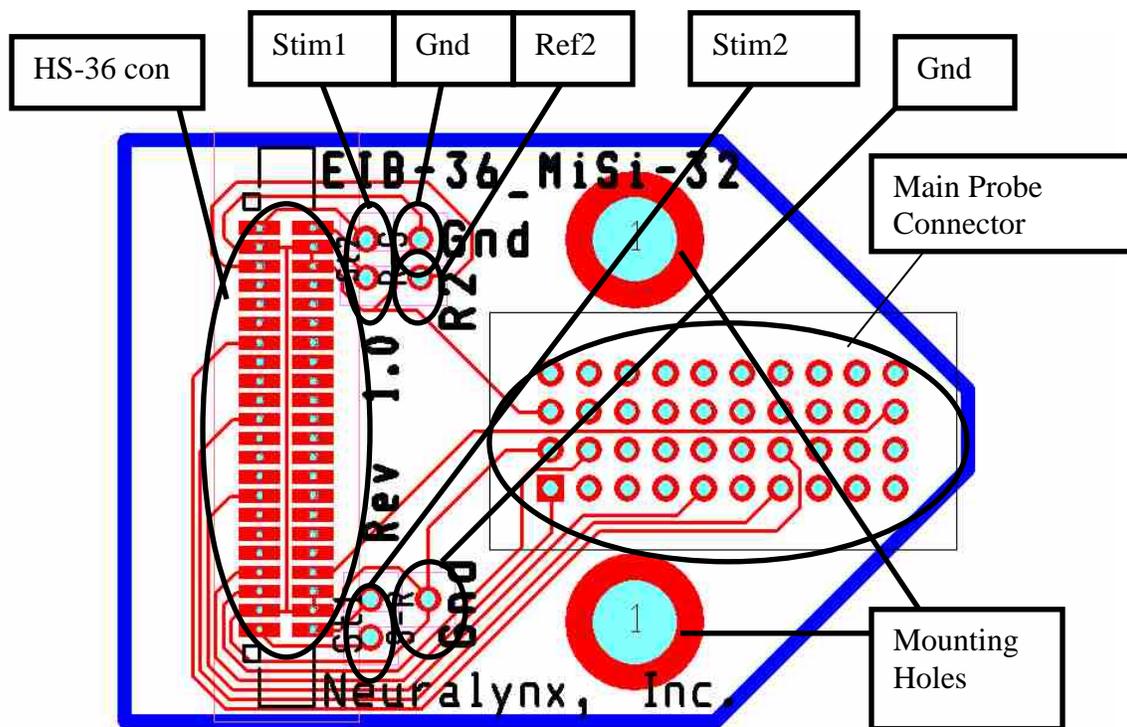


Figure 1 Connectors on the ADPT-HS36-N2T-32A

HS-36 Con	This is the output connector for the adapter. It connects to the Input Connector of the HS-36.
Stim1	This 2 pin connector connects to the HS-36 Stim1 Channel signals
Stim2	This 2 pin connector connects to the HS-36 Stim2 Channel signals
Gnd	These two Gnd connectors (1 wire each) connect to the HS-36 Gnd. This signal connection point is usually used to connect to the bath or skull screw.
Ref2	This connection is used for external reference inputs, such as a silver chloride wire in a bath or fine wire placed in brain matter.
Mounting Holes	These two holes have no electrical connection, they are used only for physical mounting to a stereotaxic mounting block/holder.
HS-36 Con	This is the output connector for the adapter. It connects to the Input Connector of the HS-36.

Note: The NeuroNexus 32 channel probes contain a Ref1 reference signal. The source of this signal is a large pad about 1mm above the active micro recording pads. This Ref1 connection is hardwired to the HS-36 Ref1 input signal. If a different reference is needed

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the Ref2 signal connection is used for this purpose and the appropriate reference selection is made on the ERP-XX or DRS-36 reference selection device.

This connector is a standard Samtec FOLC-MKT 40 pin connector. The 40 pins are arranged in 4 rows of 10 pins each. Shown below is the numbering order for the pins of this connector.

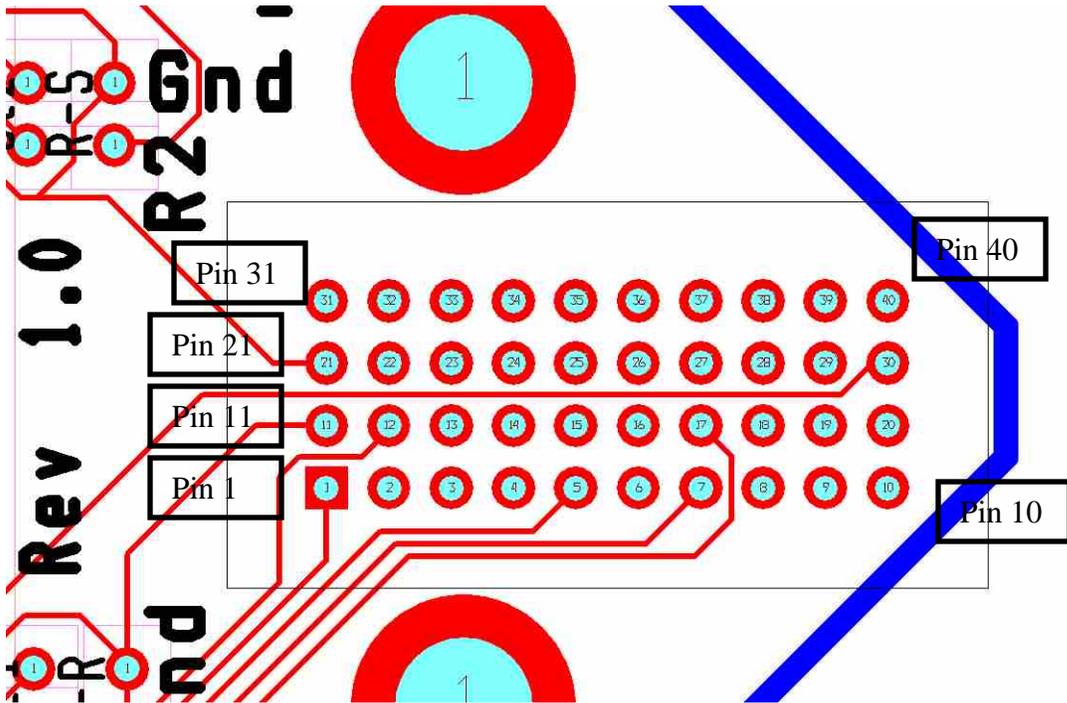


Figure 2 40 Pin Connector Pin Assignments

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The following table shows the pin number and the HS-36 channel name assignments.

Pin	Name	Pin	Name	Pin	Name	Pin	Name
1	InA1	11	Gnd	21	Gnd	31	InB16
2	InA2	12	Ref1	22	NC	32	InB15
3	InA3	13	NC	23	NC	33	InB14
4	InA4	14	NC	24	NC	34	InB13
5	InA5	15	InA6	25	InB11	35	InB12
6	InA7	16	InA8	26	InB9	36	InB10
7	InA9	17	InA13	27	InB4	37	InB8
8	InA10	18	InA14	28	InB3	38	InB7
9	InA11	19	InA15	29	InB2	39	InB6
10	InA12	20	InA16	30	InB1	40	InB5

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1.5 Connector Pin Channel Ordering on the NeuroNexus 32 channel Probe

Note that the channel numbering does not have a specific, well defined order. The NeuroNexus probe is manufactured with standard Silicon IC design processes and signals may NOT cross, in effect this is a “single layer” layout (in PC board layout terms). Therefore the re-ordering of the connections is done on the four layer adapter.

The channel ordering is Figure 3 NeuroNexus Probe channel numbering. Note that the design is symmetrical with respect to the center line of the probe connector. The HS-36 InA1 thru InA16 are on the bottom. The HS-36 InB1 thru InB16 are on the top half of the connector.

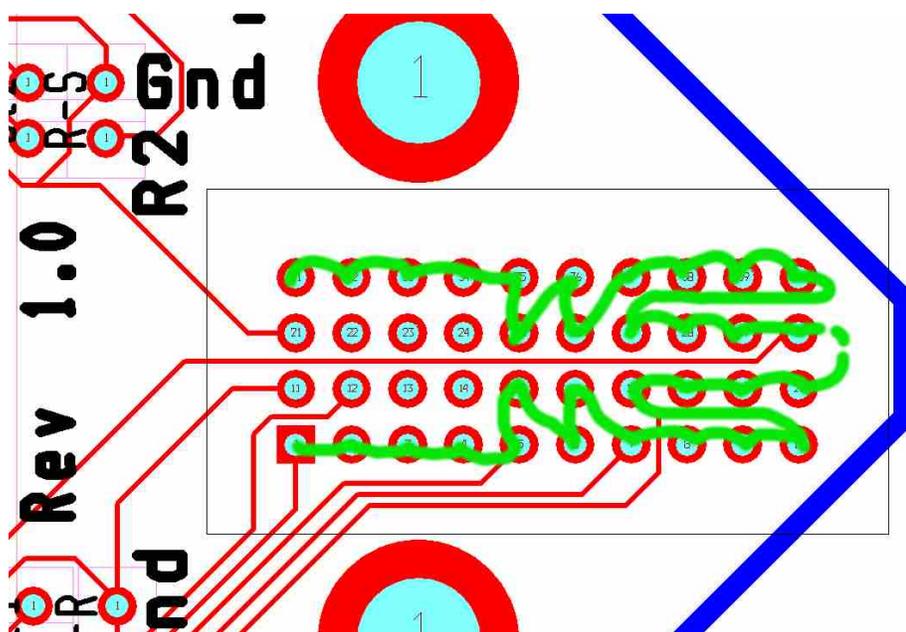


Figure 3 NeuroNexus Probe channel numbering

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The standard NeuroNexus channel numbering (consistent with the NeuroNexus documentation) is shown on Figure 4 Neuralynx HS-36 Input Channel Numbering.

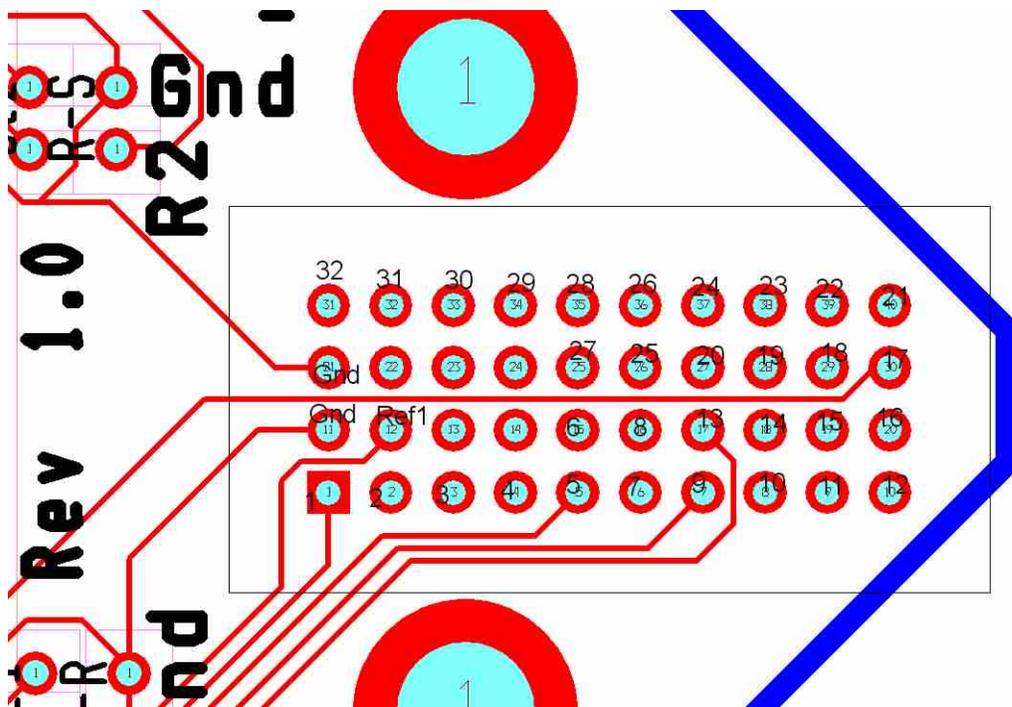


Figure 4 Neuralynx HS-36 Input Channel Numbering

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The standard Neuralynx HS-36 input channel numbering (consistent with the Neuralynx ERP-XX documentation) is shown on Figure 5 Standard Neuralynx Channel Numbering).

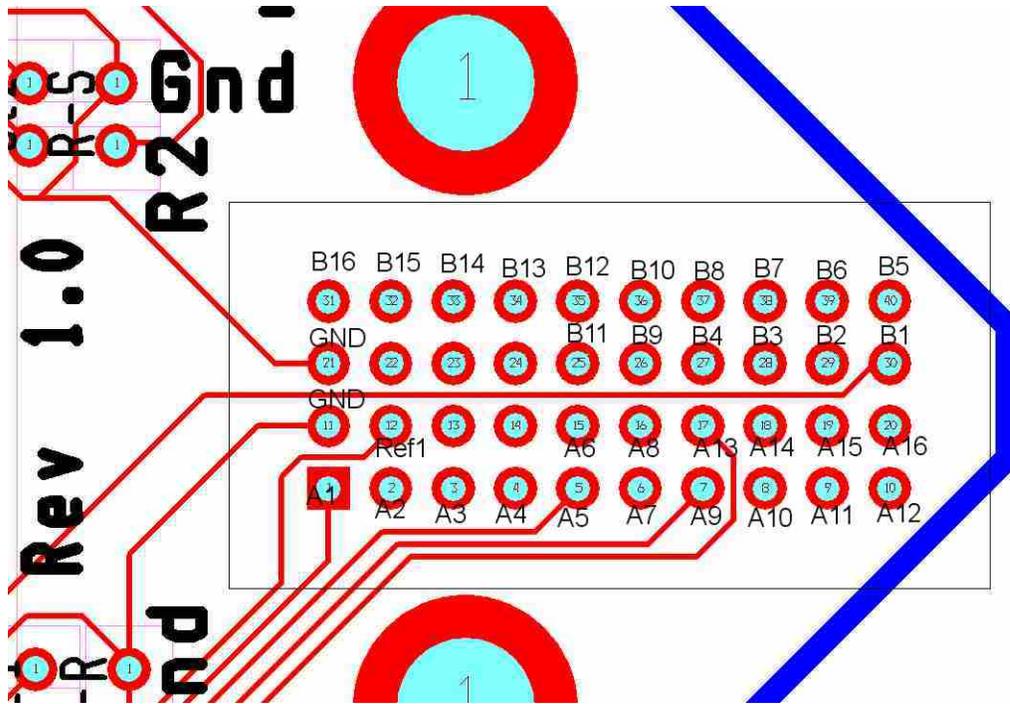


Figure 5 Standard Neuralynx Channel Numbering

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