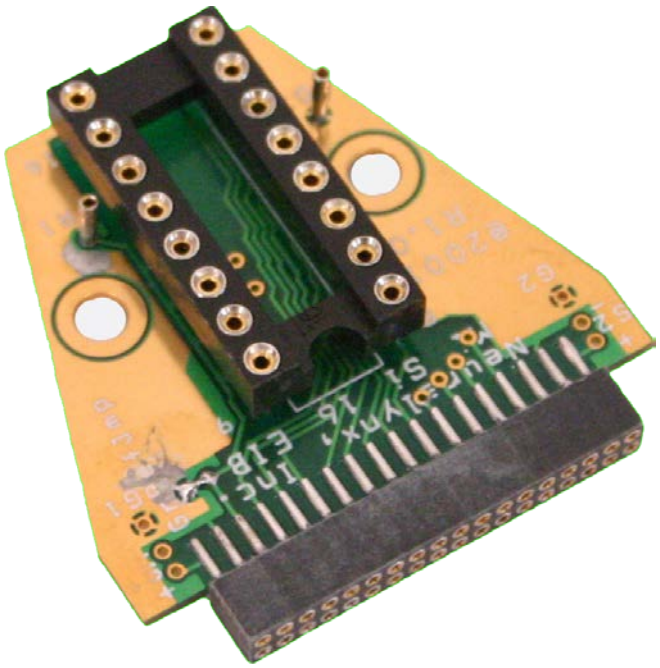
Neuralynx
High Density Electrophysiology Recording Systems



ADPT-HS27-N2T-16
User Manual

Adapter for 16 Channel NeuroNexus Probe

105 Commercial Drive, Bozeman, MT 59715
Phone 406.585.4542 • Fax 406.585.9034
www.Neuralynx.com
support@Neuralynx.com

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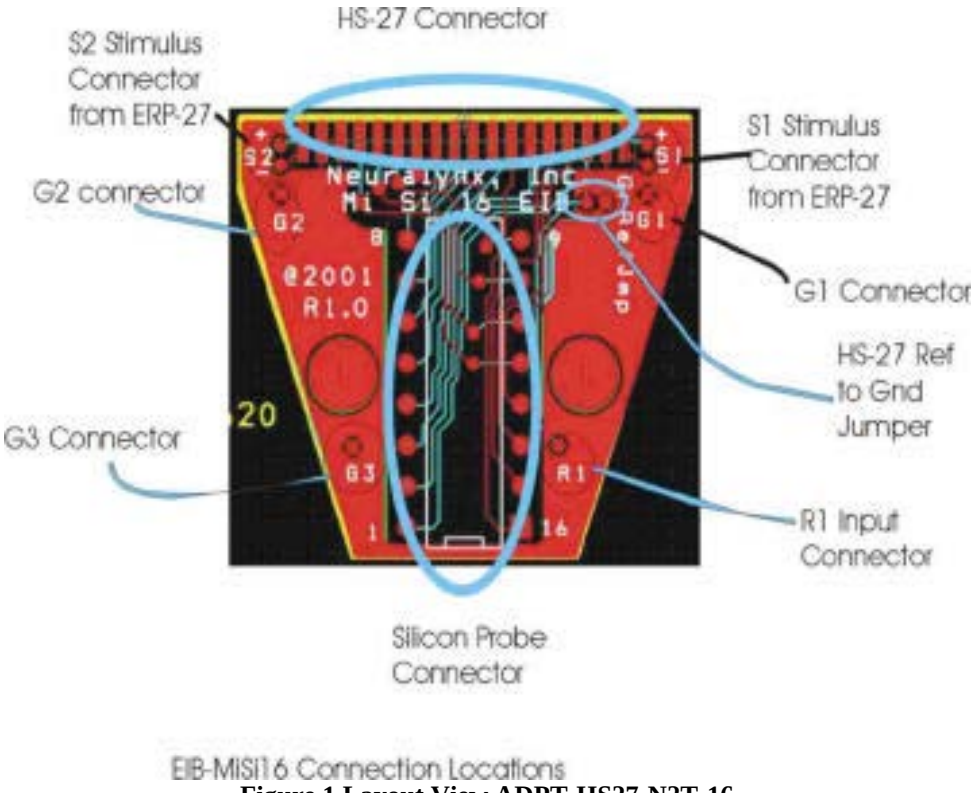

Figure 1 Layout View ADPT-HS27-N2T-16

1 Adapter Connections

The connections shown above (see Figure 1 Layout View ADPT-HS27-N2T-16) have the following functions:

- G1, G2, G3, these are all connected to the Ground of the PC board. This is the large Gold Plated surface of the PC board.
- HS-27 Connector on the top is the main connection to the HS-27. The standard Male to Male gold pin Mill-Max connector is used to make this connection. If the right angle Stereo-Tax plastic mounting block is used then a right angle Mill-Max header pin set it used to make the connection.
- S1 and S2 Stimulus connections are the standard differential stimulus signals which connect directly through the headstage and tether to the back of the ERP-27 Stimulus 10 pin connector. There are a total of 4 wires for the two stimulus channels (2 wires for each channel). There are no connections to any electronic component, active or passive; it is a “direct copper connection”.

- R1 Input, this is the HS-27 Reference signal input connector. This pin would be used if you wish to use a separate reference electrode/wire input. Normally this would be used for a reference electrode in the slice preparation if desired. Note: there is the "HS-27 Ref to Gnd Jumper" wire on the ADPT-HS27-N2T-16, close to the HS-27 connector. If the jumper wire is in place then the HS-27 Reference will be connected to the EIBMiSi16 PC board Ground. HS-27 Ref to Gnd Jumper wire. If this wire is in place then the HS-27 Reference input will be connected to the PC board ground.
- To use an external electrode input as the reference this small jumper must be cut with a small pair of wire cutters. If this is done then the reference signal in connected to the R1 Input Connector below.

2 How to make the connections in a typical slice chamber.

The ADPT-HS27-N2T-16 is connected to the HS-27 with a standard 36 pin male-to-male header. The probe in inserted into the standard 16 pin IC connector socket. A silver-chloride wire is placed in the bath very close to the slice preparation in the bath fluid and connected to one of the G1, G2, or G3 connector pins. Normally this is sufficient for normal operation.

At the ERP-27 the A selector switch reference position is used for A1 thru B4 channels as the HS-27 Reference input is connected to the EIB-MiSi16 PC Board Ground. Remember that this is also connected to the Silver-Chloride wire inserted in the bath. The reason the Reference is used is because this is a buffered Agnd signal and will thus give the best recordings (better than the AGND signal) because it is electronically buffered the same as the electrode signals. A second silver chloride wire may be placed in the bath for the reference. If this is the case then the Reference to Ground jumper should be clipped and the silver chloride wire will be connected to the R1 input signal pin.

3 Additional Notes

NOTE: The 16 channels for the NeuroNexus probe will be connected to the ERP-27 A1 -> A12 and B1 -> B4 channels.

Note: On the back side of the ADPT-HS27-N2T-16 the unused B5 thru B12 HS-27 input channels are usually connected to Ground to prevent unconnected input extraneous noise from the system. This is done in a method that allows the ground connection to be removed for situations where use of the extra input channels is desired. This is done by

carefully removing the solder bridges across these channels on the back side of the board. Please contact Neuralynx if you need to use these channels.