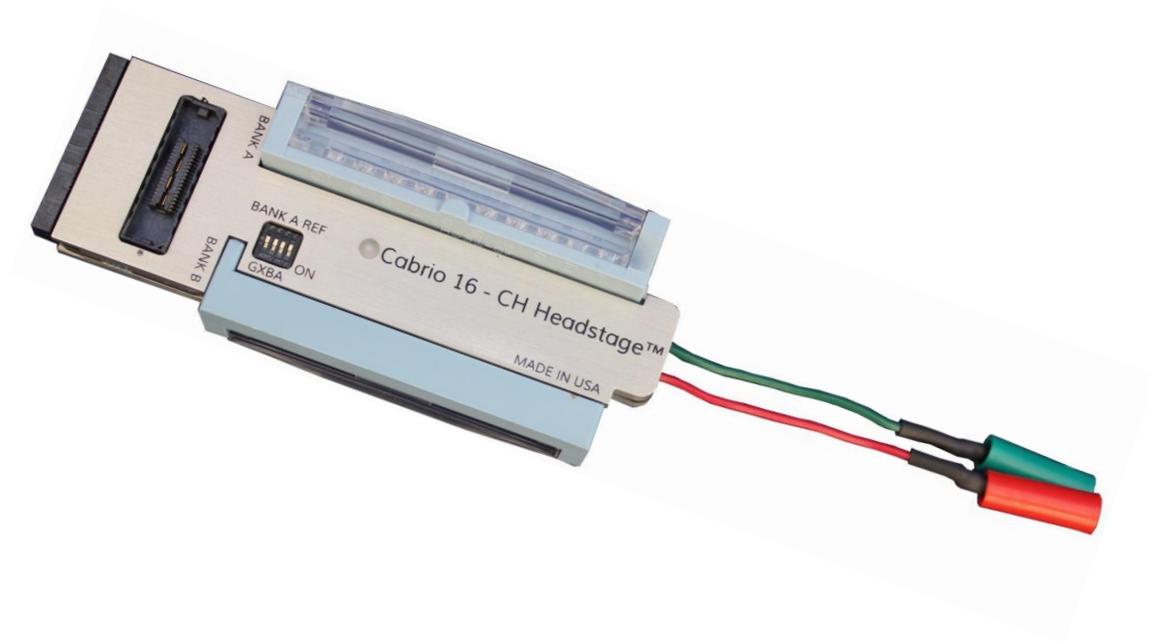


Blackrock 16-Channel Cabrio SR Adapter Instruction for Use

PN-8771



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1 System Overview

The Blackrock 16-Channel Cabrio SR Adapter provides an interface between Blackrock's Neuroport Neural Signal Processor (NSP) with an additional Second Record (SR) connector for third party devices to connect to microelectrode arrays for high fidelity transmission and recording of extracellular spikes and local field potentials from the brain. Each Bank on the Amplifier Manifold provides connection to two 16-Channel Adapters. This allows a total of eight Adapters to be connected (128 channels). The combination of the Amplifier Manifold, Shielded Cable, and the Adapter provides an ultra-low noise transmission across a desirable distance. Figure 1-1 below shows an application overview of how the 16-Channel Cabrio Butterfly Adapter fits into a complete neural recording system.

Caution: Federal (U.S.A.) law restricts this device to sale by or on the order of a physician.

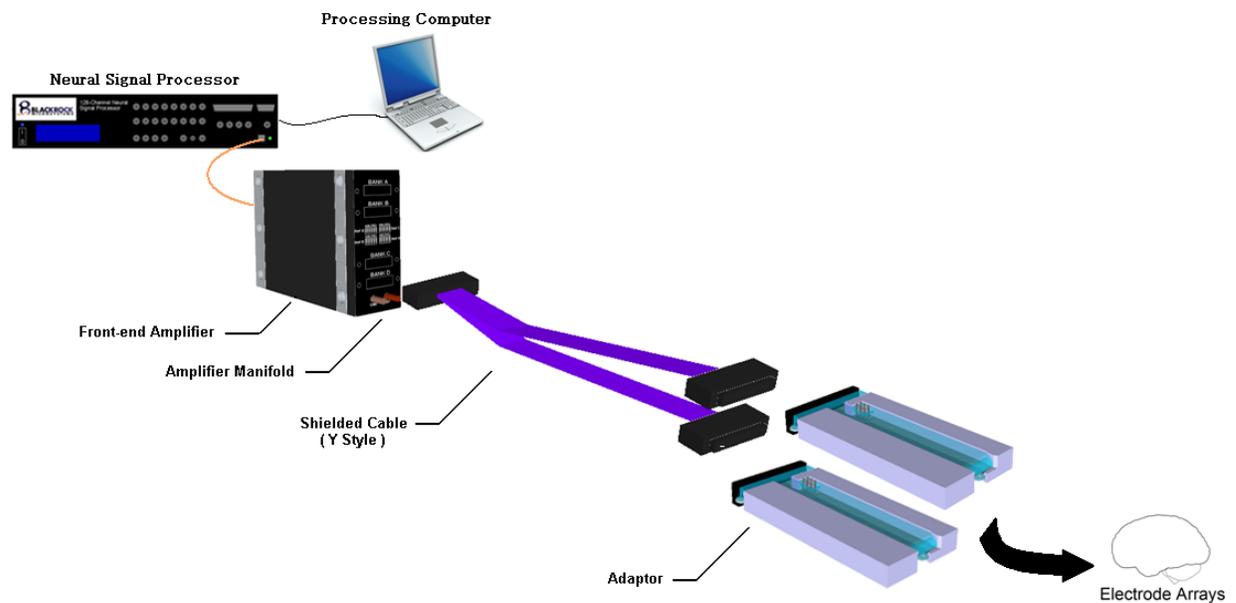


Figure 1-1: Application Overview

* Blackrock Amplifier Manifold and Neuroport Acquisition System (Neural Signal Processor, Front End Amplifier) are each purchased separately.

2 Hardware

2.1 Blackrock 16-Channel Cabrio SR Adapter Pin-out

The ECoG connectors on the Adapter are two CABRIO connectors. Each 8 channel leg has a unity gain headstage. The green and red touch-proof jacks coming out from the Adapter are external ground and external reference, respectively. The blue LED will light up when power is applied to the headstage. Different references can be selected through the dip switch as shown in Figure 2-1.

The Second Record connector is a Samtec MIS-019-F-L-D connector used to bypass the built in buffers for third party connections.

The dip switches on the Cabrio Adapter are used to select the reference for each bank of channels. Each bank of channels can use its own reference, the reference from the other bank, external ground or external reference.

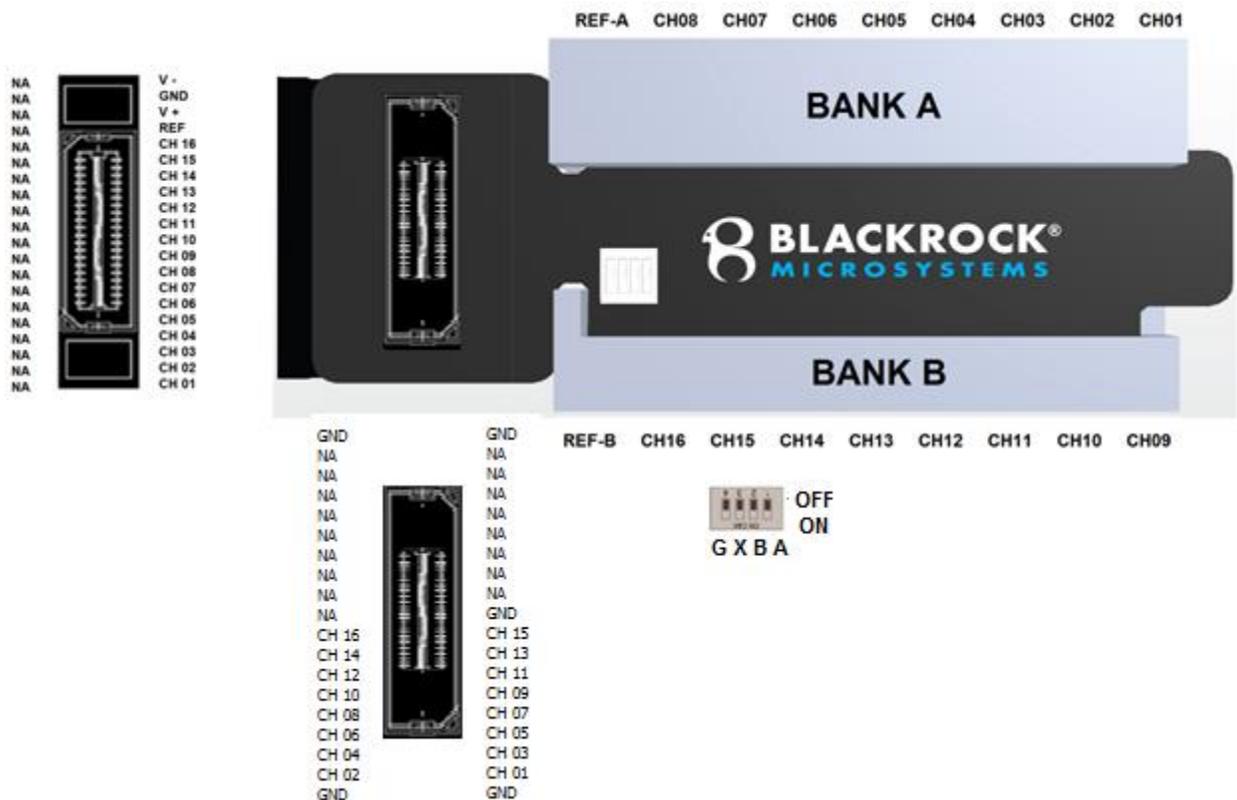


Figure 2-1: Blackrock 16-Channel Cabrio SR Adapter Pin-Out
*LED facing on top with Bank A

Position 1 ON: Selects reference from Bank A

Position 2 ON: Selects reference from Bank B

Position 3 ON: Selects external reference (X)

Position 4 ON: Shorts reference to ground (G)

****Only one position should be ON for each reference selection switch**

2.2 Connect the Pigtail to the Cabrio Connector

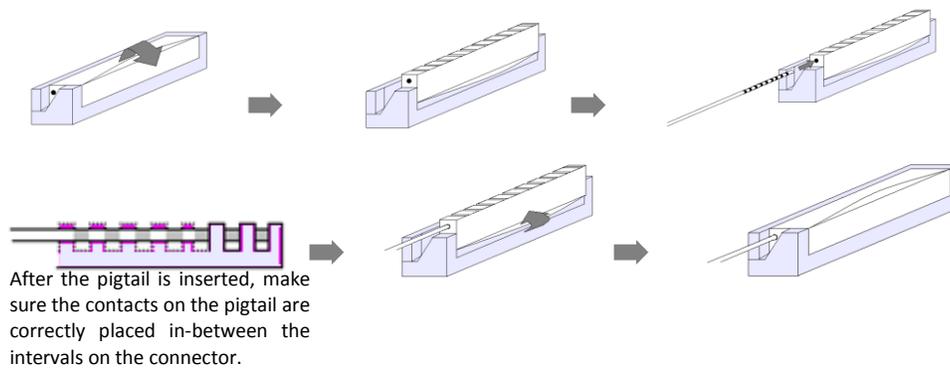


Figure 2-2: Connecting the pigtail to the Cabrio Connector

The Adapter is connected to the ECoG pigtails and can be wrapped in the headwrap. The shielded cable can be connected to the amplifier manifold and the reference jumpers can then be set appropriately.

2.3 Connect the Blue Ribbon Cable to the Cabrio Adapter

- 3 The Blackrock Cabrio Adapter receives power and transmits recorded signal through the attached blue ribbon cable. It is important to connect the cable correctly to prevent tripping the power safety switches within the amplifier. Plug the blue ribbon cable straight into the connector on the adapter, do not 'rock' it in or insert diagonally. **Warranty**

Blackrock Microsystems, Inc. warrants that its products are free from defects in materials and manufacturing for a period of one year from the date of shipment.

Blackrock will, at its option, repair or replace any product that does not comply with this warranty. This warranty is voided by:

1. Any modification or attempted modification to the product done by anyone other than an authorized Blackrock employee
2. Any abuse, negligent handling or misapplication of the product.

This constitutes the sole warranty made by Blackrock, Inc. There are no other warranties, expressed or implied, which extend beyond those described herein or to anyone other than the original purchaser, including the implied warranties of merchantability and fitness for a particular purpose. In no event shall Blackrock Microsystems, Inc. be liable for any incidental or consequential damages, or for the infringement of any patent rights or third party rights due to the use of its products.

3.1 Return Merchandise Authorization (RMA)

In the unlikely event that your Adapter needs to be returned to Blackrock for repair or maintenance, do not send any equipment back without a Return Merchandise Authorization Number. An RMA number will be issued to you by a Blackrock representative. If you need to obtain an RMA number, you may contact a product support representative at (801) 582-5533 or toll free at (866) 806-3692.

Once an RMA number has been issued, it is important to safely pack the returned item for shipping back to Blackrock. It is preferred that you save the original boxes and packing materials that your system arrived in for return shipment. Please address the package as follows:

Blackrock Microsystems, Inc.
ATTN: RMA#
630 Komas Drive, Suite 200
Salt Lake City, UT 84108 USA
Tel: (801) 582-5533