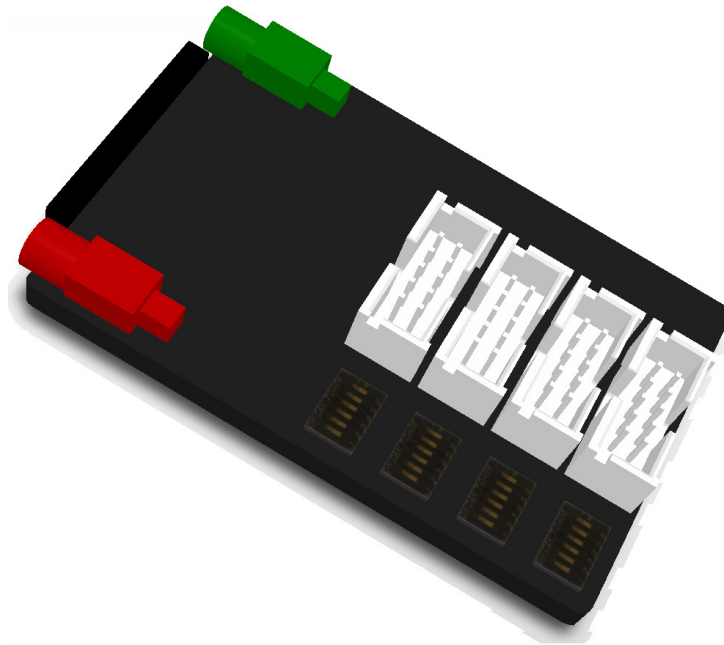


# Blackrock Quad IDC 10 Adaptor Instructions for Use

(PN 7341)



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
## Table of Contents

<b>1</b>	<b>Symbols .....</b>	<b>3</b>
<b>2</b>	<b>Contraindications .....</b>	<b>3</b>
<b>3</b>	<b>Warnings.....</b>	<b>3</b>
<b>4</b>	<b>Cautions.....</b>	<b>4</b>
<b>5</b>	<b>System Overview.....</b>	<b>4</b>
<b>6</b>	<b>Hardware.....</b>	<b>5</b>
6.1	Blackrock Quad IDC 10 Adaptor Pin-Out .....	5
6.2	Blackrock Quad IDC 10 Adaptor Reference Selection .....	6
<b>7</b>	<b>Instruction for Assembly.....</b>	<b>7</b>
<b>8</b>	<b>Warranty.....</b>	<b>7</b>
8.1	Return Merchandise Authorization (RMA).....	7

## Table of Figures

<b>Figure 1: Application Overview.....</b>	<b>4</b>
<b>Figure 2: Blackrock Quad IDC 10 Adaptor Pin-Out.....</b>	<b>5</b>
<b>Figure 3: Reference Selection.....</b>	<b>6</b>

# 1 Symbols

	IEC60101-0102	Danger of Electrostatic Discharge (ESD)
	IEC 348	Consult instructions for use
	IEC606417-5335	Type BF Applied Part
	IEC60417-5172	Class II Equipment
 YEAR	EN-980	Combined Manufacturer/Manufacturing Date
	EN-980	Serial Number

# 2 Contraindications

- The Quad IDC 10 Adaptor is part of a recording system and should not be used in applications involving stimulation.
- Do not plug devices into the Amplifier Manifold that are not approved by Blackrock Microsystems.

# 3 Warnings

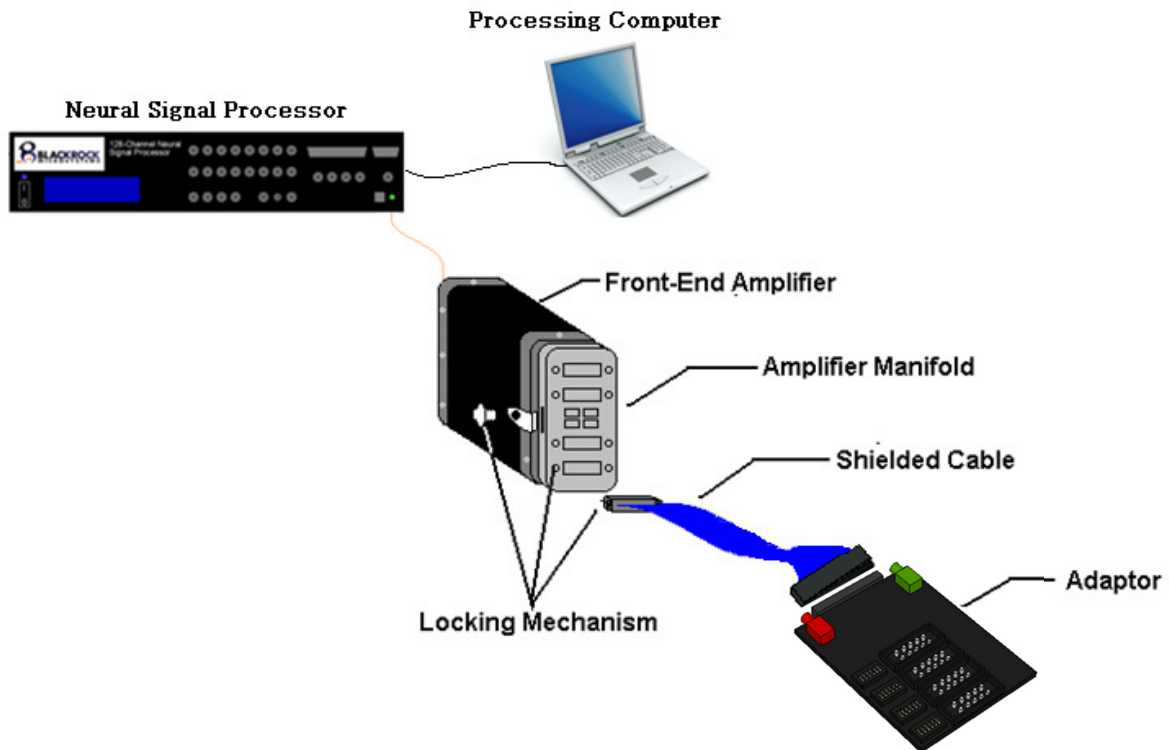
- Do not touch any exposed electrical conductors when the Quad IDC 10 Adaptor connector is attached to devices on the subject's head as this may result in inducing electric charge to the neural tissue. Irreversible damage may occur.
- The Quad IDC 10 Adaptor is NOT to be used for stimulation.
- The patient/subject should not attempt to remove the connections themselves.
- Do not use the Quad IDC 10 Adaptor in the presence of flammable anesthetic agents or any other reagents.
- Avoid strong static discharges from sources like television or computer monitors because it can damage the electrical components of the system.
- Keep the Quad IDC 10 Adaptor away from liquids. Contact with water, shower spray, or wet surfaces can lead to the patient receiving an electrical shock.
- Always use antistatic or electro static discharge (ESD) safe gloves when connecting the Quad IDC 10 Adaptor.
- Use only the supplied Blackrock Microsystems components (Neuroport™ system, Amplifier Manifold, Amplifier Manifold Shielded Cable). Substitution of components not supplied by Blackrock Microsystems may affect system performance and patient safety.
- Do not leave the patient/subject connected to the Quad IDC 10 Adaptor when the NeuroPort™ System is not in use.
- Use caution when placing cables and other connectors to minimize the likelihood of tripping or accidentally pulling on cables. Pulled cables may cause damage to the Quad IDC 10 Adaptor, Amplifier Manifold Shielded Cable, or any other connected devices.

## 4 Cautions

- Federal (USA) law restricts this device to sale, by or on the order of a physician.
- Read this entire manual prior to using the device.

## 5 System Overview

The Blackrock Quad IDC 10 Adaptor provides an interface between Blackrock's Neural Signal Processor (NSP) and microelectrode arrays for high fidelity transmission and recording of extracellular spikes and local field potentials from the brain. Figure 1 below shows an application overview of how the Quad IDC 10 Adaptor fits into a complete neural recording system.



\*The Blackrock Amplifier Manifold, Shielded Cable and Data Acquisition System (Neural Signal Processor, Front End Amplifier) are each purchased separately.

## 6 Hardware

### 6.1 Blackrock Quad IDC 10 Adaptor Pin-Out

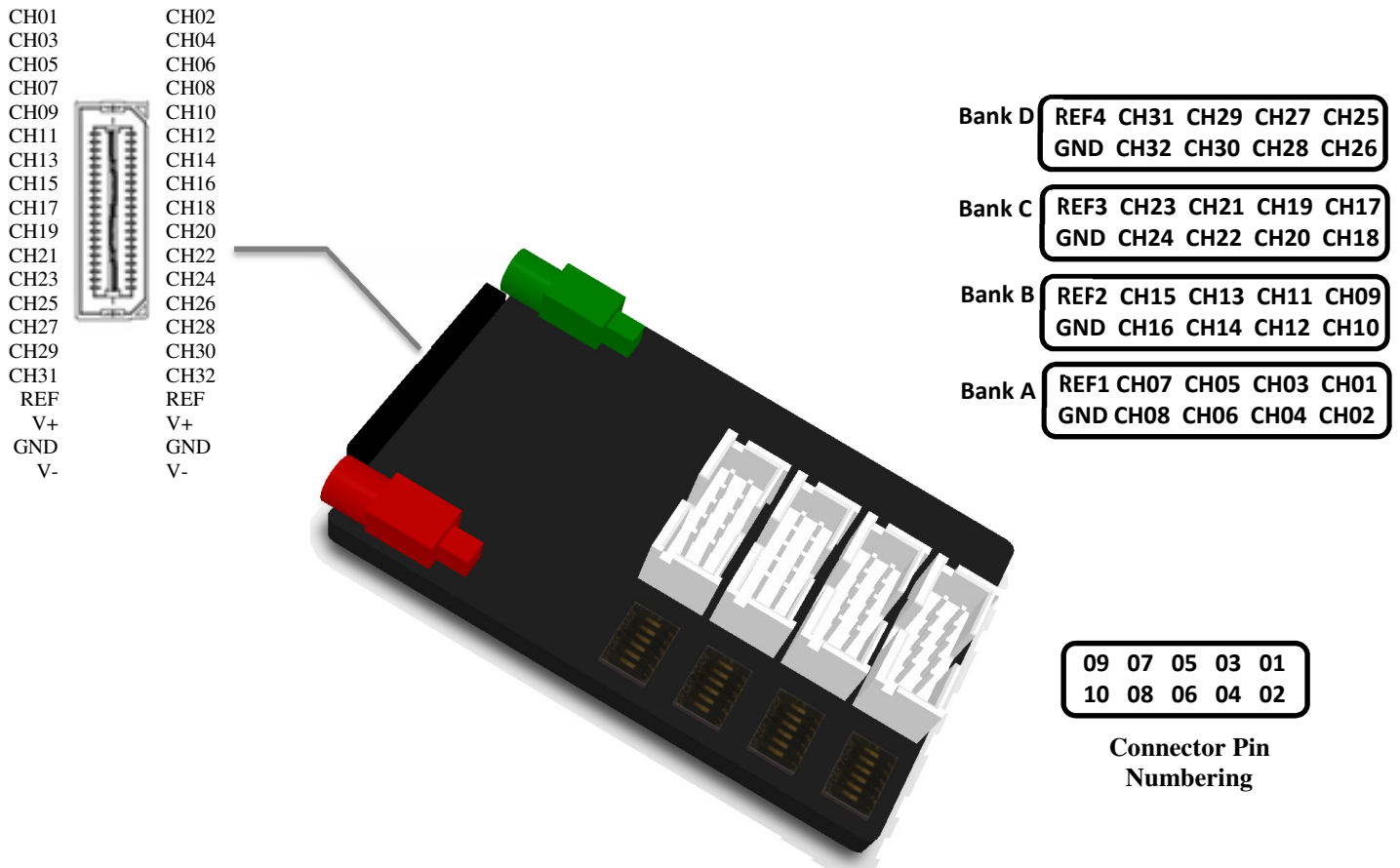
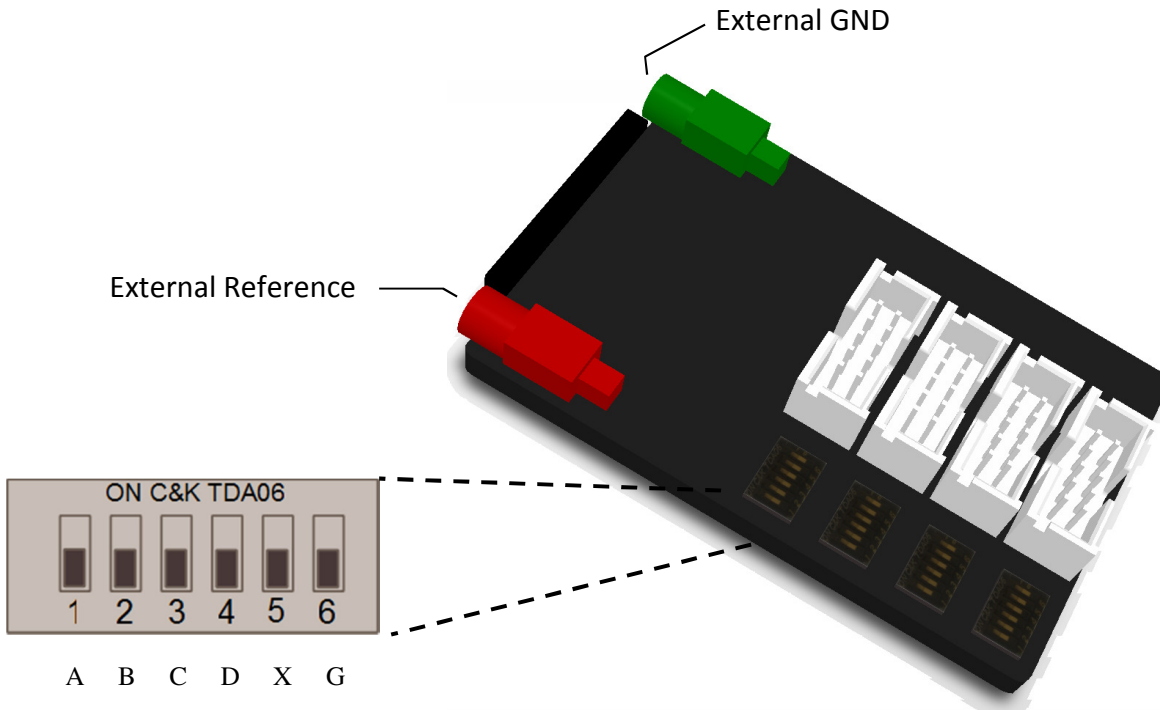


Figure 2: Blackrock Quad IDC 10 Adaptor Pin-Out

## 6.2 Blackrock Quad IDC 10 Adaptor Reference Selection

The dip switches on the Quad IDC 10 Adaptor are used to select the reference for each bank of channels. Each bank of channels can use its own reference, the reference from any of the other three banks, or the external reference.



**Figure 3: Reference Selection**

- Position 1 ON:** Selects reference from Bank A
- Position 2 ON:** Selects reference from Bank B
- Position 3 ON:** Selects reference from Bank C
- Position 4 ON:** Selects reference from Bank D
- Position 5 ON:** Selects external reference (X)
- Position 6 ON:** Shorts reference to ground (G)

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

NOTE 1: Refer to Figure 2 for the locations of Banks A, B, C and D.

## 7 Instruction for Assembly

1. Turn off all power to the Front-End Amplifier and Neural Signal Processor prior to making any connections
2. Connect the Amplifier Manifold to the Front-End Amplifier (refer to the user manual for the Amplifier Manifold for instructions on assembly).
3. Connect the shielded cable to the QSE connector of the Quad IDC 10 Adaptor and Bank A of the Amplifier Manifold.
4. Connect external reference and ground (if required) and select the desired reference for each bank of channels on the adaptor.
5. Connect the electrodes to the IDC connectors on the adaptor.
6. Turn on all power to the system to begin recording.

\*\*After recording, turn off all power to the system before making any disconnections

## 8 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.

### 8.1 Return Merchandise Authorization (RMA)

In the unlikely event that your adaptor 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**  
**ATTN: RMA#**  
**630 Komas Drive, Suite 200**  
**Salt Lake City, UT 84108 USA**  
**Tel: +1 (801) 582-5533**