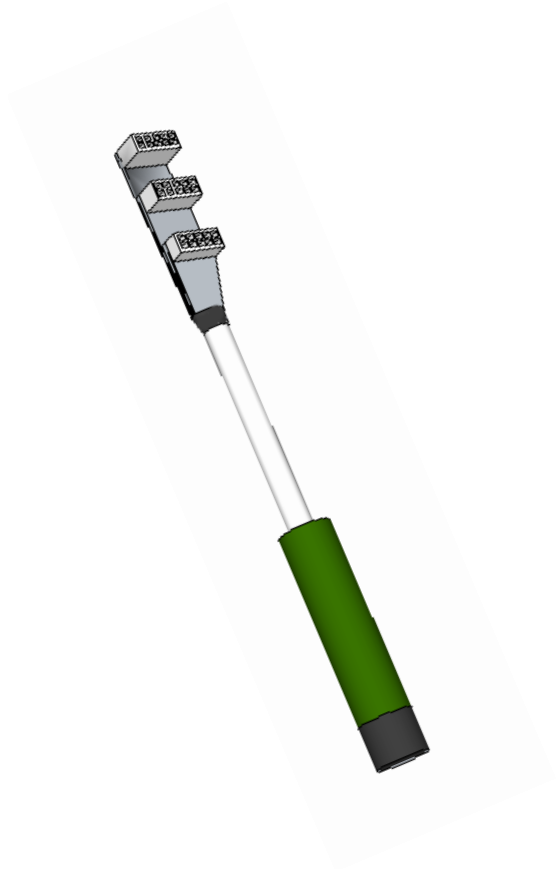


DIXI Micro/Macro IDC 10 Adapter Instructions for Use

PN 7976



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DIXI Micro/Macro IDC 10 Adapter - Instructions for Use

1 System Overview

The DIXI Micro/Macro IDC 10 Adapter provides an interface between The DIXI 5128-PROTO 20 Micro/Macro Electrode and Blackrock's Quad IDC 10 Adapter for high fidelity transmission and recording of extracellular spikes and local field potentials through the Blackrock Neural Signal Processor. Figure 1 below provides an application overview of how the DIXI Micro/Macro IDC 10 Adapter fits into a complete neural recording system.

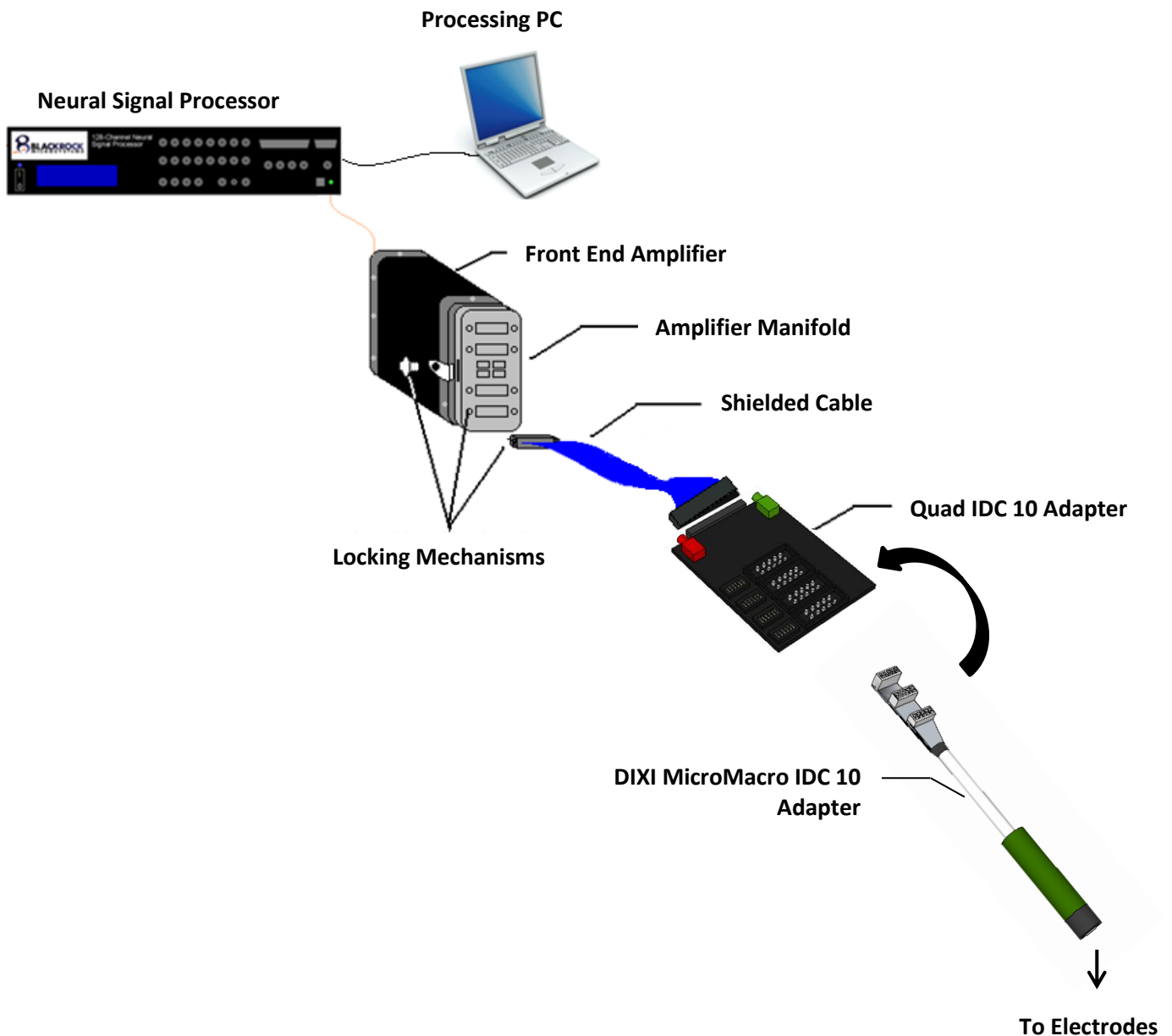
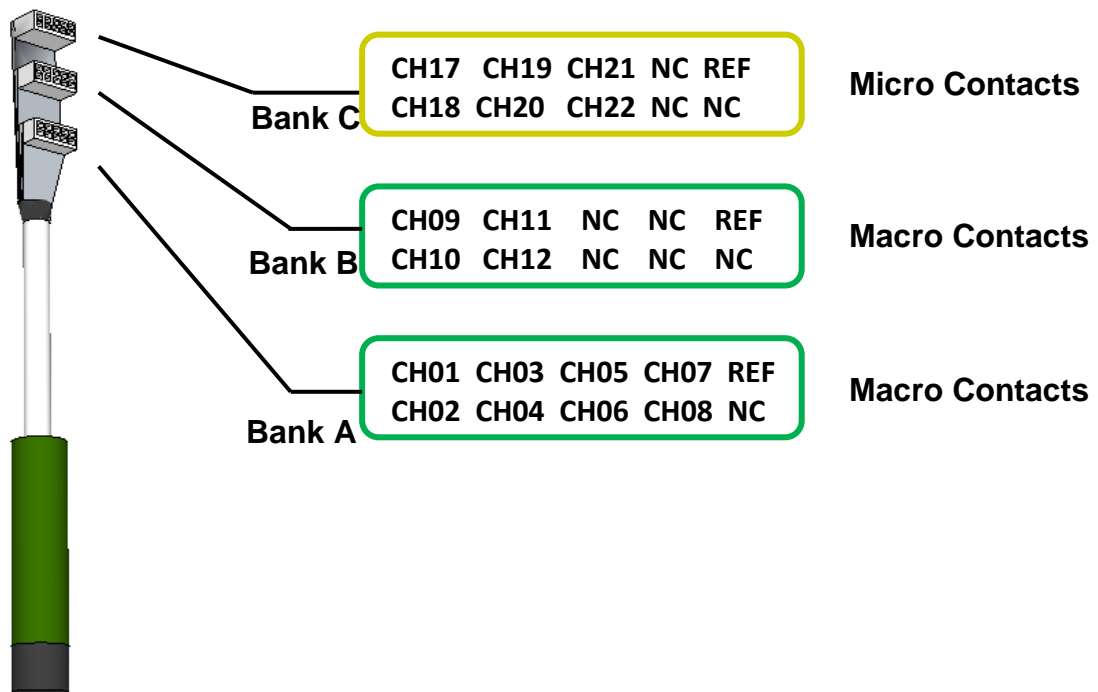


Figure 1: Application Overview

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2 Hardware

2.1 DIXI Micro/Macro IDC 10 Adapter Pin-Out



** NC = Not Connected, REF = Reference

Figure 2: DIXI Micro/Macro IDC 10 Adapter Pin-Out

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2.2 Blackrock Quad IDC 10 Adapter Pin-Out

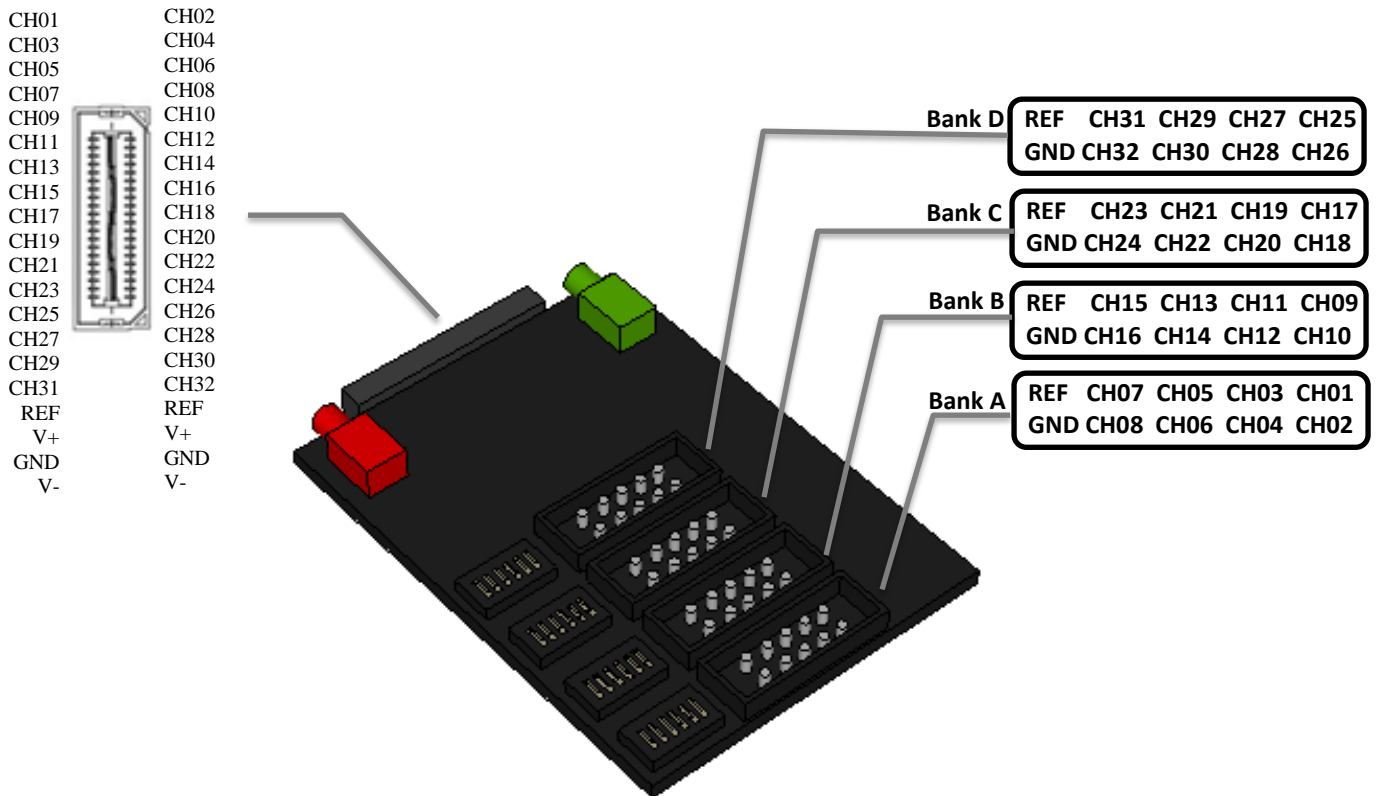


Figure 3: Quad IDC 10 Adapter Pin-Out

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2.3 Blackrock Quad IDC 10 Adapter 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.

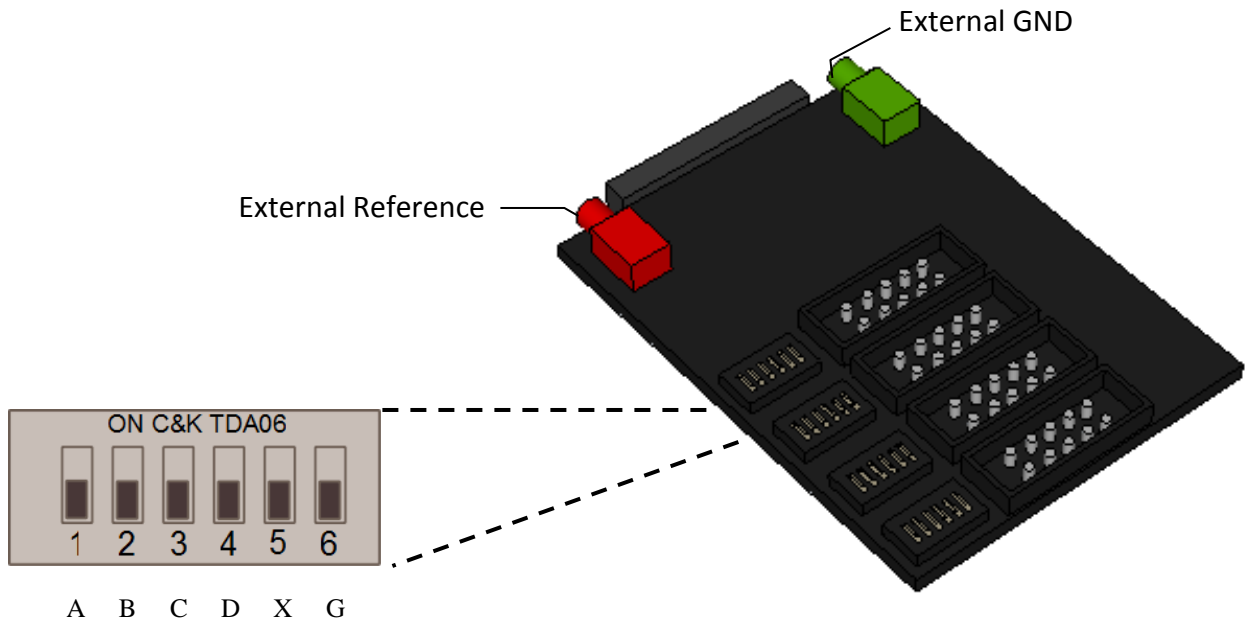


Figure 4: Reference Selection

- 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 3 for the locations of Banks A, B, C and D.

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2.3.1 Reference Selection for Macro Contacts

Use GND as reference for all macro contacts. In order to select reference for the macro contacts, it will be necessary to connect an external ground to the green touch-proof GND connector on the Quad IDC 10 Adapter. To use GND as reference, set the position 6 switch on Banks A and B to the ON position. Refer to Figure 3 and 4 for the location of the reference selection switches.

2.3.2 Reference Selection for Micro Contacts

The micro contacts use the macro contacts as reference. Each bank of channels uses a different macro contact as its reference

Bank A Reference = CH01 Macro Contact
Bank B Reference = CH12 Macro Contact
Bank C Reference = CH02 Macro Contact

In order to select the CH01 Macro Contact as the reference for the micro contacts on Bank C, set the position 3 switch on Bank C to the ON position. To select the CH02 macro contact as reference, set the position 1 switch on BANK C to the ON position and to select the CH12 macro contact, set the position 2 switch on Bank C to ON.

NOTE: Only one reference should be selected for each bank at a time.

3 Micro/Macro Electrode Mapping

The following table provides channel mapping between the DIXI 5128-PROTO 20 electrode cable and the Blackrock Neural Signal Processor (NSP).

Type of Contact	DIXI Micro/Macro Contact Number (5128-PROTO 20)	Blackrock NSP Channel Number
Macro	1	1
Macro	2	2
Macro	3	3
Macro	4	4
Macro	5	5
Macro	6	6
Macro	7	7
Macro	8	8
Macro	9	9
Macro	10	10
Macro	11	11
Macro	12	12
Micro	6	17
Micro	5	18
Micro	4	19
Micro	3	20
Micro	2	21
Micro	1	22

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4 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 DIXI Micro/Macro IDC 10 Adapter.
6. Position the electrodes into the DIXI 5128-PROTO 20 end of the adapter according to the instructions provided by DIXI microtechniques.
7. Turn on all power to the system to begin recording.

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

5 Warranty

Blackrock Microsystems, LLC 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, LLC. 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, LLC 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.

5.1 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, LLC
ATTN: RMA#
391 Chipeta Way, Suite G
Salt Lake City, UT 84108 USA
Tel: (801) 582-5533