



Bio-Stream Diagnostics Inc

User's Manual

Revision 2.0.0.80

Contents

Sign Up	4
Step 1	4
Step 2	5
Step 3	6
Step 4	7
Step 5	8
Main Menu.....	9
Procedure.....	10
Search.....	10
Search Context Menu.....	11
Step Commands	12
Linear Sweep (Continuous Capture Mode).....	12
Capture Constant Current	13
Square Wave	14
Enable ADC.....	15
Disable ADC.....	16
Enable DAC.....	17
Disable DAC.....	18
Linear Sweep 2 (Source-Delay-Measure Mode).....	19
Square Wave 2	21
Electrochemical Impedance Spectroscopy	23
Capture.....	24
Select Company.....	24
Connect Reader.....	24
Reader Connected.....	25
Biosensor.....	26
Procedure.....	27
Details	28
Validation	29
Run	30

View Data	31
Search.....	31
View The Data	32
Edit Data.....	33
Search.....	33
Edit The Data	34
Chart.....	35
Search.....	35
Chart The Data	36

Sign Up

Step 1

 <h3>Sign in</h3> <p>Sign in with your email address</p> <input type="text" value="Email Address"/> <input type="password" value="Password"/> <p>Forgot your password?</p> <p><input type="button" value="Sign in"/></p> <p>Don't have an account? Sign up now</p> <p>Sign in with your social account</p> <input type="button" value="Microsoft Account"/> <input type="button" value="Google"/>	<p>After opening the application, the login screen will open in a web browser.</p> <p>If you do not already have an account, click on "Sign up now".</p>
--	--

Step 2

<p>← Cancel</p> <div data-bbox="477 331 553 407"></div> <h2 data-bbox="375 443 651 491">User Details</h2> <p data-bbox="253 548 776 600">Verification code has been sent to your inbox. Please copy it to the input box below.</p> <div data-bbox="248 623 781 693"><input type="text" value="b[redacted]@[redacted]"/> *</div> <div data-bbox="248 722 781 791"><input type="text" value="761024"/>  *</div> <div data-bbox="339 848 686 919"><input type="button" value="Verify code"/> <input type="button" value="Send new code"/></div> <div data-bbox="248 961 781 1031"><input type="text" value="New Password"/> *</div> <div data-bbox="248 1060 781 1129"><input type="text" value="Confirm New Password"/> *</div> <div data-bbox="248 1159 781 1228"><input type="text" value="Display Name"/></div> <div data-bbox="248 1257 781 1327"><input type="text" value="Given Name"/></div> <div data-bbox="248 1356 781 1425"><input type="text" value="Surname"/></div>	<p>Note, you cannot enter a password or name until you verify your email.</p> <ol style="list-style-type: none">1. Enter your email and the system will send you an email containing a verification code.2. Enter the verification code and click the "Verify code" button.
---	--

Step 3

<p>← Cancel</p>  <h1>User Details</h1> <p>E-mail address verified. You can now continue.</p> <input type="text" value="b [redacted]@ [redacted]"/> * <p>Change e-mail</p> <input type="password" value="New Password"/> * <input type="password" value="Confirm New Password"/> * <input type="text" value="Display Name"/> <input type="text" value="Given Name"/> <input type="text" value="Surname"/> <p>Create</p>	<p>After you verify your email:</p> <ol style="list-style-type: none">1. Enter your new password.2. Enter the name you want displayed after you log in.3. Enter your first and last name.4. Click the “Create” button.
--	---

Step 4

 Terms and Conditions — □ ×

Introduction

These Terms of Use govern your access and use of Bio-Stream Status Pass applications for web and mobile devices (the "App"), the Bio-Stream website (the "Website"), and the content, information, and services performed or provided by or through them (collectively the "Services"). The Services are made available by BioStream Diagnostics Inc. ("Company") only to the user ("you") under these Terms of Use and in accordance with the Privacy Notice available on the Bio-Stream website (together, the "Agreement"). You may visit or use the Services only on the condition that you agree to abide by the terms of the Agreement. If you do not agree to the terms of the Agreement, do not access or use the Services.

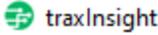
1. Scope

Subject to the terms of this Agreement, the Company hereby grants to you a nonexclusive, limited, non-transferable, non-sublicensable license to the Services for your non-commercial, personal use only.

You may choose to use the Services to assist you in making your own decisions about your actions. The information provided to you from your use of the Services is health information that (i) is not a substitute for a doctor or other healthcare provider

You must select the Terms and Conditions.

Step 5

— □ ×

Add Your First Company and Project

Company Name *

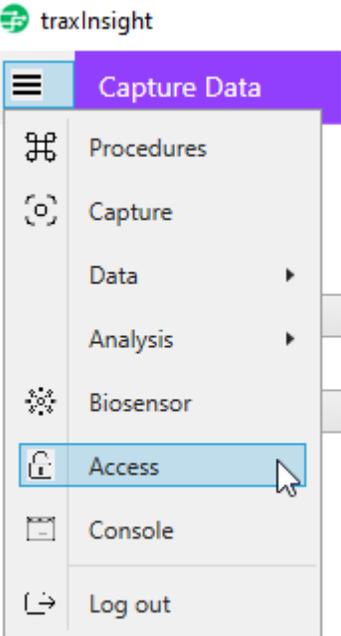
Company Description

Project Name *

Project Description

You must now enter the name of your company and the name of your first project. Note, you can edit these names later. You can also create additional companies and projects.

Main Menu

	<table border="1" data-bbox="641 415 982 520"><tr><td></td><td>Hamburger Icon</td></tr></table> <p>Procedure – A group of custom commands that is shared to collect data.</p> <p>Capture – Runs a data capture.</p> <p>Data</p> <ul style="list-style-type: none">• View – You can view existing data.• Edit – You can edit existing data. <p>Analysis</p> <ul style="list-style-type: none">• Chart – A graphical representation for data visualization.• Electrochemical – the study interfacial phenomena by looking at the relationship between current and potential. <p>Biosensor – You can find and edit Biosensors</p> <p>Access – User Access means any type of access which allows/permits the User to act on behalf of the Account Holder. You can create new companies, add projects to existing companies, and invite users to existing companies and projects.</p> <p>Console – Displays records of events that happen within the application on this computer.</p> <p>Log out – Ends the current user session. Users must login when reopening the application.</p>		Hamburger Icon
	Hamburger Icon		

Procedure

Search

Procedures

Company:

Version:

Target Platform:

Private:

Part of Name:

Another Part of Name:

Part of Login Name (Created By):

Version	Name
1.52	Lee's Linear Sweep 2
1.11	Forward Reverse Gate
1.06	Forward Reverse Drain
1.01	Square Wave
1.04	LinearSweep test
1.03	Capture Constant Current
1.11	Forward Reverse Drain
1.02	LinearSweep drain test
1.02	Test CaptureConstantCurrent
1.01	test SquareWave
1.27	Forward Reverse Drain2
1.13	Forward Reverse Gate2
1	10 linear sweeps test
1	10 linear sweeps drain test
1.02	CaptureConstantCurrent test 1 min
1.05	Capture Constant Current 8 min for PCB, v1
1.38	Chloride Assay Demo
1.02	Capture Constant Current 7 min for PCB, v1
1.02	Capture Constant Current 23 min for PCB, v1
1.01	Capture Constant Current 7 min for PCB, Larger sampling rate,v1
1	Capture Constant Current 7 min for PCB, Larger sampling rate
1	Voltage Sweep - Demo
1.01	Constant Current - Demo
1.26	Constant Current - Demo 2

1. This screen is for searching for existing procedure, creating new ones, and editing existing procedures. Procedures are shared by the entire company and represent a measurement tactic.
2. The filters on the left will help you filter a search if you many procedures in your library of procedures.
3. If you wish to add a new procedure, use the "Add Procedure" button on the bottom left.
4. If you wish to edit an existing procedure, right click on the procedure and choose "edit".

Search Context Menu

The screenshot shows a web application interface for managing procedures. On the left is a search sidebar with the following fields:

- Company: Bio-Stream (dropdown)
- Version: (text input)
- Target Platform: (select from list) (dropdown)
- Private: (dropdown)
- Part of Name: (text input)
- Another Part of Name: (text input)
- Part of Login Name (Created By): (text input)

Below the search fields are buttons for Search, Clear, Load More, and Add Procedure. On the right is a table of procedures:

Version	Name
1.52	Lee's Linear Sweep 2
1.11	Forward Reverse Drain
1.06	Forward Reverse Gate
1.01	Square Wave
1.04	LinearSweep test
1.03	Capture Constant Current
1.11	Forward Reverse Drain
1.02	LinearSweep drain test
1.02	Test CaptureConstantCurrent
1.01	test SquareWave
1.27	Forward Reverse Drain2
1.13	Forward Reverse Gate2
1	10 linear sweeps test
1	10 linear sweeps drain test
1.02	CaptureConstantCurrent test 1 min
1.05	Capture Constant Current 8 min for PCB, v1
1.38	Chloride Assay Demo
1.02	Capture Constant Current 7 min for PCB, v1
1.02	Capture Constant Current 23 min for PCB, v1
1.01	Capture Constant Current 7 min for PCB, Larger sampling rate,v1
1	Capture Constant Current 7 min for PCB, Larger sampling rate
1	Voltage Sweep - Demo
1.01	Constant Current - Demo
1.26	Constant Current - Demo 2

A context menu is open over the 'Square Wave' row, showing 'Edit' and 'Duplicate' options.

When you choose to add or edit a procedure you will see a screen like the one above. Procedures are a list of steps that the reader can run individually with the added option to repeat one or many steps if you would like to. Examples could be repeating a transfer curve 10 times as you see below, or a series of steps like you see in the example above. These are all displayed in tree view for navigation and an understanding of parent child relationships.

Step Commands

Linear Sweep (Continuous Capture Mode)

Step Settings

Category
Firmware

Profile
Linear Sweep (Continuous Capture Mode)

Description

Low Voltage (mV) 0

High Voltage (mV) 1000

Number Of Steps 25

Direction Low to High

Frequency (Hz) 25.0

Drain Voltage (mV) -300

Electrode Gate

This command will perform a linear sweep going from either high to low voltage or low to high voltage depending on the direction setting. This command can be run on its own, in series, or as part of a repetition (traxInsight). This command is the basis of Cyclic Voltammetry.

Field Name	Data Type	Value
Low Voltage	Integer	Gate voltage in mV
High Voltage	Integer	Gate voltage in mV
Number Of Steps	Integer	Number of steps between low and high gate voltage
Direction	Integer	0 for low to high, 1 for high to low
Frequency	Float	Speed to change step, also the sampling rate

Repetition Number	Integer	If you are sending this as part of a repetition this will be added to the data returned
Electrode	Integer	0 – Gate, 1 - Drain

Capture Constant Current

Step Settings

Category

Profile

Description

Max Time (ms)

Once the ADC and DAC are setup, this command wait for a period of time and allow all the data captured to be tagged during that period.

Field Name	Data Type	Value
Max Time	Long	How long to run in milliseconds

Square Wave

Step Settings

Category

Profile

Description

Low Voltage (mV)

High Voltage (mV)

Amplitude Voltage (mV)

Number Of Steps

Direction

Frequency (Hz)

Electrode

This command will perform a square wave going from either high to low voltage or low to high voltage depending on the direction setting.

Field Name	Data Type	Value
Low Voltage	Integer	low voltage requested as part of the ending transfer curve, the amplitude will be added and subtracted from this number
High Voltage	Integer	high voltage requested as part of the ending transfer curve, the amplitude will be added and subtracted from this number
Amplitude Voltage	Integer	number of mV higher and lower of each stepping point.
Number Of Steps	Integer	Number of steps between low and high voltage

Direction	Integer	0 for low to high, 1 for high to low
Frequency	Float	Speed to change step, also the sampling rate
Electrode	Integer	0 gate, 1 drain
Repetition Number	Integer	Current repetition

Enable ADC

Step Settings

Category

Profile

Description

Over Sampling Rate

Capture Gate Voltage

Capture Drain Voltage

Capture Source Voltage

Capture Ref Voltage

Capture Drain Amperage

Capture Gate Amperage

Drain Current Range

This will start the ADC sampling at the rate you want and on the electrodes you wish to sample. There is also an option to select the range the drain current is measured in.

Field Name	Data Type	Value
Over Sampling Rate	Integer	1-16, see table below
Capture Gate Voltage	Integer	0 – No, 1 - Yes
Capture Drain Voltage	Integer	0 – No, 1 - Yes
Capture Source Voltage	Integer	0 – No, 1 - Yes
Capture Ref Voltage	Integer	0 – No, 1 - Yes

Capture Drain Amperage	Integer	0 – No, 1 - Yes
Capture Gate Amperage	Integer	0 – No, 1 - Yes
Drain Current Range	Integer	0 – 27mA to 3.6nA 1 - 3mA to 0.36nA

Disable ADC

Step Settings

Category
Firmware

Profile
Disable ADC

Description

Enable DAC

Step Settings

Category

Profile

Description

Drain Voltage (mV)

Gate Voltage (mV)

Source Voltage (mV)

Is Gate Feedback Amp

These commands turn on the source, drain, and gate electrodes. If you run a command without first enabling the system you will receive only electrical noise. If you do not disable the electrodes then the device will remain active after the commands complete but no data will be reported. When the DAC is enabled, all values are referenced to the source voltage.

Field Name	Data Type	Value
Drain Voltage	Integer	Drain voltage in mV, in relation to source Voltage.
Gate Voltage	Integer	Gate voltage in mV, in relation to source Voltage.
Source Voltage	Integer	Source voltage in mV, 0 to 3000.
Is Gate Feedback Amp	Int	0 off, 1 gate/source potential being varied with ref electrode.

Disable DAC

Step Settings

Category
Firmware

Profile
Disable DAC

Description

Linear Sweep 2 (Source-Delay-Measure Mode)

Step Settings	
Category	Firmware
Profile	Linear Sweep 2 (Source-Delay-Measure Mode)
Description	
Low Voltage (mV)	-900
High Voltage (mV)	100
Number Of Steps	25
Direction	Low to High
Frequency (Hz)	25.0
Electrode	Gate
Over Sampling Rate	1024 @ 1200Hz
Capture Gate Voltage	Yes
Capture Drain Voltage	Yes
Capture Source Voltage	Yes
Capture Ref Voltage	Yes
Capture Drain Amperage	Yes
Capture Gate Amperage	Yes
Drain Current Range	27mA to 3.6nA

This command will perform a linear sweep going from either high to low voltage or low to high voltage depending on the direction setting. This command can be run on its own, in series, or as part of a repetition. The primary difference between this command the Linear Sweep is that the ADC sampling will be coordinated in the source delay measurement cycle.

Field Name	Data Type	Value
Low Voltage	Integer	Drain voltage in mV
High Voltage	Integer	Drain voltage in mV
Number Of Steps	Integer	Number of steps between low and high voltage
Direction	Integer	0 for low to high, 1 for high to low
Frequency	Float	Speed to change step, also the sampling rate.
Electrode		0 is gate, 1 is drain
Over Sampling Rate	Integer	Sample as previous
Capture Gate Voltage	Integer	0 – No, 1 - Yes
Capture Drain Voltage	Integer	0 – No, 1 - Yes
Capture Source Voltage	Integer	0 – No, 1 - Yes
Capture Ref Voltage	Integer	0 – No, 1 - Yes
Capture Drain Amperage	Integer	0 – No, 1 - Yes
Capture Gate Amperage	Integer	0 – No, 1 - Yes
Drain Current Range	Integer	0 – 27mA to 3.6nA 1 - 3mA to 0.36nA

Square Wave 2

Step Settings

Category

Profile

Description

Low Voltage (mV)	<input type="text" value="0"/>
High Voltage (mV)	<input type="text" value="1000"/>
Amplitude Voltage (mV)	<input type="text" value="25"/>
Number Of Steps	<input type="text" value="25"/>
Direction	<input type="text" value="Low to High"/>
Repetitions	<input type="text" value="1"/>
Frequency (Hz)	<input type="text" value="10.0"/>
Electrode	<input type="text" value="Gate"/>
Over Sampling Rate	<input type="text" value="1024 @ 1200Hz"/>
Capture Gate Voltage	<input type="text" value="Yes"/>
Capture Drain Voltage	<input type="text" value="Yes"/>
Capture Source Voltage	<input type="text" value="Yes"/>
Capture Ref Voltage	<input type="text" value="Yes"/>
Capture Drain Amperage	<input type="text" value="Yes"/>
Capture Gate Amperage	<input type="text" value="Yes"/>
Drain Current Range	<input type="text" value="27mA to 3.6nA"/>

This command will perform a square wave going from either high to low voltage or low to high voltage depending on the direction setting.

Field Name	Data Type	Value
------------	-----------	-------

Low Voltage	Integer	low voltage requested as part of the ending transfer curve, the amplitude will be added and subtracted from this number
High Voltage	Integer	high voltage requested as part of the ending transfer curve, the amplitude will be added and subtracted from this number
Amplitude Voltage	Integer	number of mV higher and lower of each stepping point.
Number Of Steps	Integer	Number of steps between low and high voltage
Direction	Integer	0 for low to high, 1 for high to low
Frequency	Float	Speed to change step, also the sampling rate
Repetition Number	Integer	
Electrode	Integer	0 gate, 1 drain
Over Sampling Rate	Integer	Sample as previous
Capture Gate Voltage	Integer	0 – No, 1 - Yes
Capture Drain Voltage	Integer	0 – No, 1 - Yes
Capture Source Voltage	Integer	0 – No, 1 - Yes
Capture Ref Voltage	Integer	0 – No, 1 - Yes
Capture Drain Amperage	Integer	0 – No, 1 - Yes
Capture Gate Amperage	Integer	0 – No, 1 - Yes
Drain Current Range	Integer	0 – 27mA to 3.6nA 1 - 3mA to 0.36nA

Electrochemical Impedance Spectroscopy

Step Settings

Category

Profile

Description

Amplitude Voltage (mV)

DC Offset

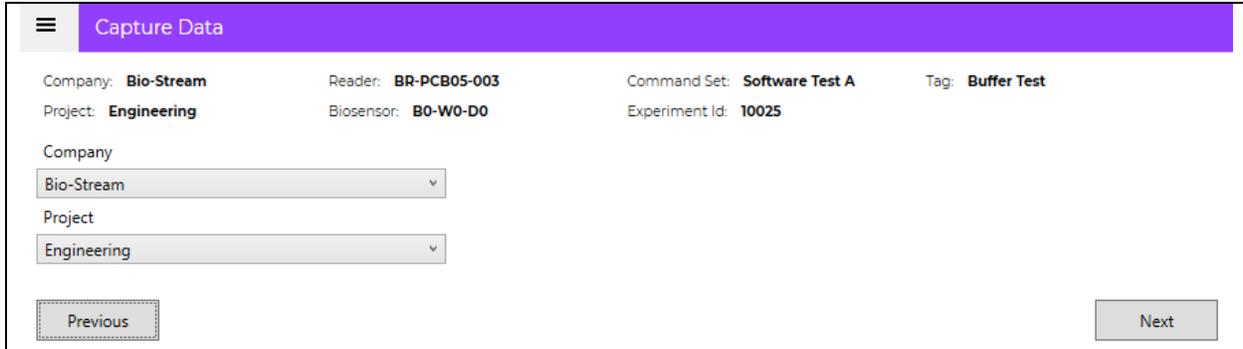
Frequency (Hz)

This feature is still in development, and we welcome feedback on its implementation. At this time, you should not attempt to run faster than 1000Hz.

Field Name	Data Type	Value
Amplitude Voltage	Float	The amplitude of the sine wave in mV.
DC Offset	Integer	The offset from source/CE in mV
Frequency	Integer	The frequency of the sine wave in hertz

Capture

Select Company



The screenshot shows the 'Capture Data' interface with the following details:

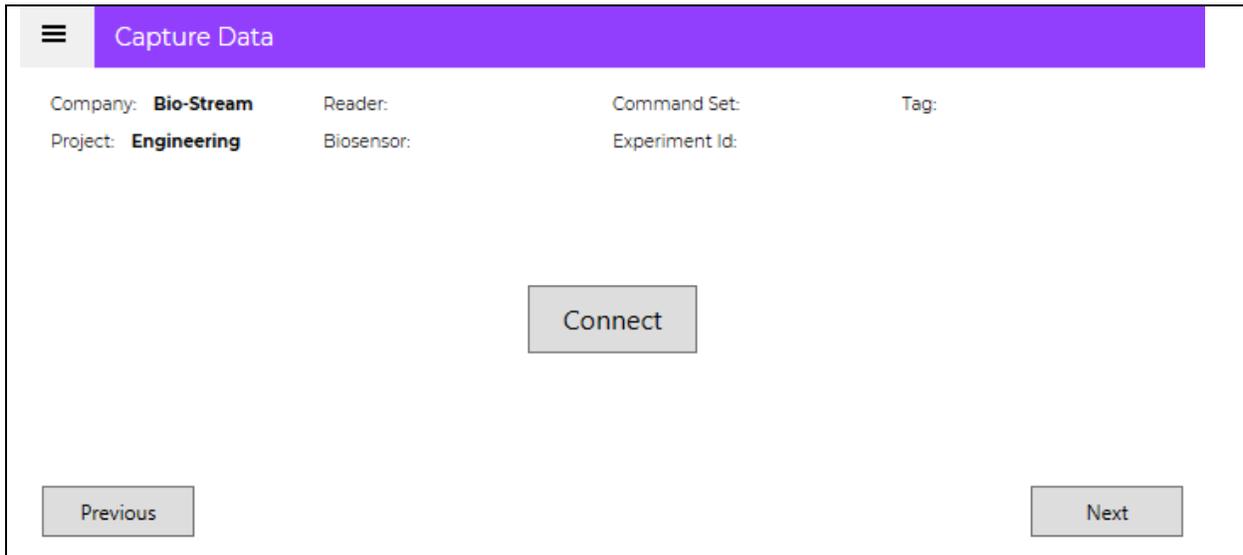
- Company: **Bio-Stream**
- Project: **Engineering**
- Reader: **BR-PCB05-003**
- Biosensor: **B0-W0-D0**
- Command Set: **Software Test A**
- Tag: **Buffer Test**
- Experiment Id: **10025**

Below the fields are two dropdown menus for 'Company' (set to Bio-Stream) and 'Project' (set to Engineering). At the bottom are 'Previous' and 'Next' buttons.

The capture screen takes you down the path of capturing data. Below are the steps to capture data.

1. Connect
2. Sensor Selection
3. Command Set Selection
4. Experimental Details
5. Data Entry Confirmation
6. Run

Connect Reader



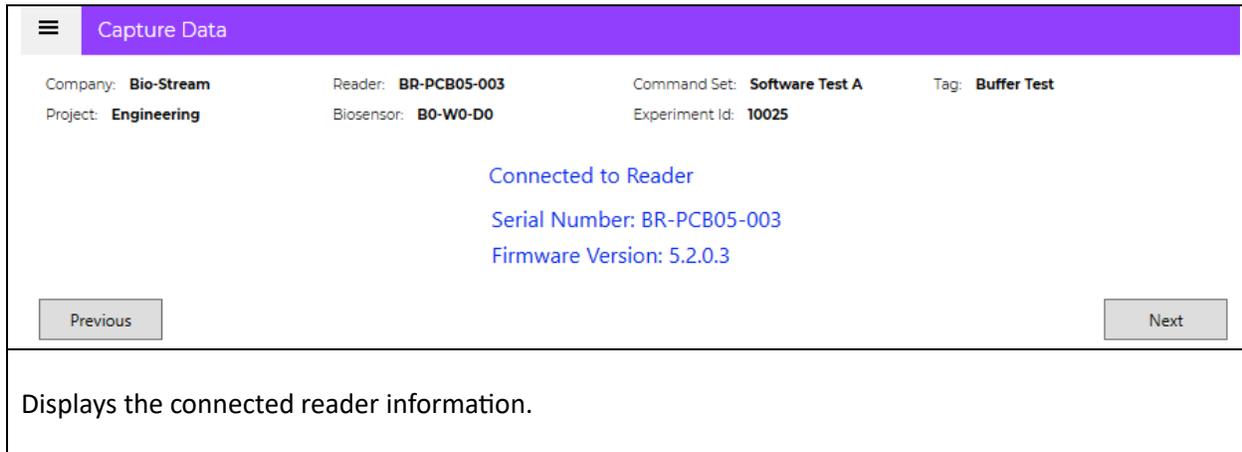
The screenshot shows the 'Capture Data' interface with the following details:

- Company: **Bio-Stream**
- Project: **Engineering**
- Reader: (empty)
- Biosensor: (empty)
- Command Set: (empty)
- Tag: (empty)
- Experiment Id: (empty)

A large 'Connect' button is centered on the screen. At the bottom are 'Previous' and 'Next' buttons.

This screen will get you connected to your traxInsight, once connected it will show the serial number and firmware version of your traxInsight. The header will be updated with this information.

Reader Connected



The screenshot displays a software interface titled "Capture Data" with a purple header. Below the header, there are four columns of metadata: Company (Bio-Stream), Reader (BR-PCB05-003), Command Set (Software Test A), and Tag (Buffer Test). The second row shows Project (Engineering), Biosensor (B0-W0-D0), and Experiment Id (10025). The main content area is centered and displays "Connected to Reader" in blue, followed by "Serial Number: BR-PCB05-003" and "Firmware Version: 5.2.0.3". At the bottom, there are "Previous" and "Next" navigation buttons. A descriptive text box at the bottom of the screenshot states: "Displays the connected reader information."

Company: Bio-Stream	Reader: BR-PCB05-003	Command Set: Software Test A	Tag: Buffer Test
Project: Engineering	Biosensor: B0-W0-D0	Experiment Id: 10025	

Connected to Reader
Serial Number: BR-PCB05-003
Firmware Version: 5.2.0.3

Previous Next

Displays the connected reader information.

Biosensor

Capture Data

Company: **Bio-Stream** Reader: **BR-PCB05-003** Command Set: **Software Test A** Tag: **Buffer Test**
Project: **Engineering** Biosensor: **B0-W0-D0** Experiment Id: **10025**

What would you like to do?

- Select existing Bio-Stream sensor
- Select existing Custom sensor
- Add new Bio-Stream sensor
- Add new Custom sensor

Biosensor Details

Batch Wafer Device

One Biosensor was selected. Click 'Next' to continue.

Biosensor Usage History

Run Time (UTC)	Operator
2023-09-06 19:44:02.305	bmiller@bio-stream.ca
2023-09-06 19:12:30.053	bmiller@bio-stream.ca
2023-09-06 19:11:24.167	bmiller@bio-stream.ca
2023-09-06 19:07:38.853	bmiller@bio-stream.ca
2023-09-05 16:27:30.571	bmiller@bio-stream.ca
2023-09-05 16:27:12.627	bmiller@bio-stream.ca
2023-09-05 16:26:54.980	bmiller@bio-stream.ca
2023-09-05 16:26:30.627	bmiller@bio-stream.ca
2023-09-05 16:26:05.585	bmiller@bio-stream.ca
2023-09-05 16:20:14.355	bmiller@bio-stream.ca
2023-09-05 16:19:56.883	bmiller@bio-stream.ca
2023-09-05 16:19:35.915	bmiller@bio-stream.ca
2023-09-05 16:19:09.755	bmiller@bio-stream.ca

This screen will allow you to enter the Batch, Wafer, and Device number of the Bio-Stream created Sensors. Should you have a sensor of your own you will be able to identify it here. Once a sensor has been identified its run history will appear below, for awareness of its history. The header will be updated with this information.

Procedure

☰
Capture Data

Company: **Bio-Stream** Reader: **BR-PCB05-003** Command Set: **Software Test A** Tag: **Buffer Test**
 Project: **Engineering** Biosensor: **B0-W0-D0** Experiment Id: **10025**

Previous five Command Sets updated or used in a Capture.

Sequence	Name	Description	CreatedBy	Created (UTC)	La: ^
2023-06-29.001.0001	Sad Stopping 2023-06-29	SAD Value 0.1	lmarsh@bio-stream.ca	2023-06-29 15:47:46.976	
2023-09-06.001.0001	Software Test A	precondition constant current	lmarsh@bio-stream.ca	2023-09-06 19:40:34.160	In
2023-04-03.001.0004	10 linear sweeps	10 linear sweeps, 4 Hz measurement rate, Vd = -300mV	bmiller@bio-stream.ca	2023-04-03 19:32:12.371	ta
2023-03-17.003.0020	Two Linear Sweeps	Used for testing.	bmiller@bio-stream.ca	2023-03-17 16:51:31.535	br
2023-07-25.001.0001	Stability Test L	Constant Current 20 minutes	lmarsh@bio-stream.ca	2023-07-25 16:56:56.044	vd

Filter criteria, to search for additional Command Sets

Sequence

Part of Name

Another Part of Name

Part of Login Name (Created By)

Search

Select one CommandSet from the list below

Sequence	Name	Description
2023-03-17.003.0020	Two Linear Sweeps	Used for testing.
2023-03-29.001.0001	Lee's Command	Taken from Lee's manual.
2023-04-03.001.0004	10 linear sweeps	10 linear sweeps, 4 Hz measurement rate, Vd = -300mV
2023-04-03.002.0018	10 rep linear sweep HL	Created for Mikolaj
2023-04-03.003.0004	Capture constant current 5min	5 minute constant current, Vg = 500mV
2023-04-03.004.0003	10x10	10 Linear for a baseline followed by 10 Linear for a sample
2023-04-03.005.0014	Bidinoer Han Malliaras Hasan Precondition 2022	Aool. Phvs. Lett. 120. 073302 (2022): https://doi.org/10.1063/5.0079011

Previous

Next

Here you can search for any command sets you have available to you, pick the one that meets your requirements, and it will again appear in the header.

Details

Capture Data

Company: **Bio-Stream** Reader: **BR-PCB05-003** Command Set: **Software Test A** Tag: **Buffer Test**
Project: **Engineering** Biosensor: **B0-W0-D0** Experiment Id: **10025**

Experiment Id: Tag:

Buffer	Bait	Target
Name <input type="text"/>	Name <input type="text"/>	Name <input type="text"/>
Concentration <input type="text"/>	Isoelectric Point <input type="text"/>	Isoelectric Point <input type="text"/>
Concentration Unit <input type="text"/>		Concentration <input type="text"/>
Molar Mass (g/mol) <input type="text"/>		Concentration Unit <input type="text"/>
Attomolar (10 ⁻¹⁸ mol/L) <input type="text"/>		Molar Mass (g/mol) <input type="text"/>
		Attomolar (10 ⁻¹⁸ mol/L) <input type="text"/>
		Medium <input type="text"/>

Comment

This screen has a variety of data capture points we have found useful and may or may not be useful to you in your use of this device. The primary field on this screen is Experiment Id and it will be required to continue. The tag field will appear in the search in traxInsight so use it for anything you want to see with ease, we use it for tags like baseline, and sample.

Validation

Capture Data

Company: **Bio-Stream** Reader: **BR-PCB05-003** Command Set: **10 linear sweeps** Tag: **Buffer Test**
Project: **Engineering** Biosensor: **B0-W0-D0** Experiment Id: **10025**

Company Selected 

Project Selected 

You have Project Researcher Role 

Reader Selected 

Biosensor Selected 

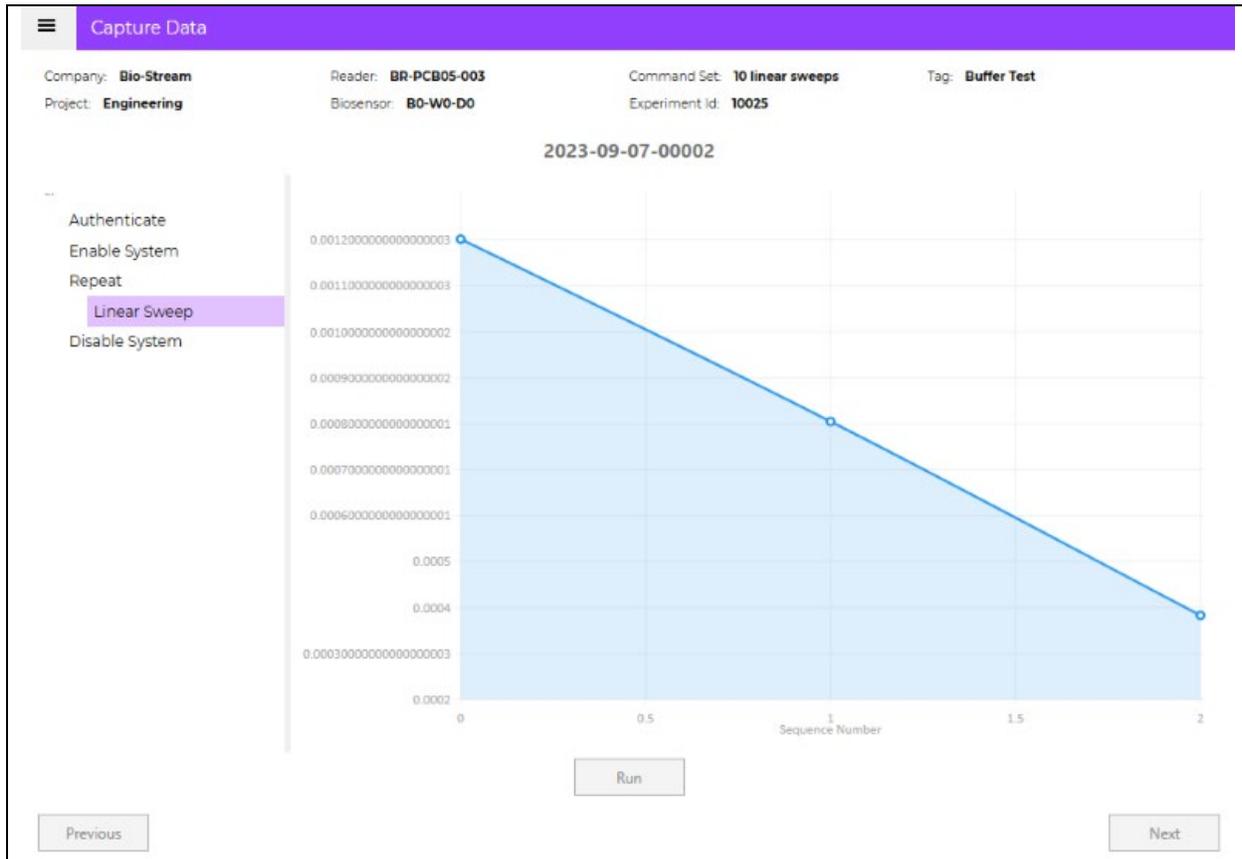
CommandSet Selected 

Experiment Id Entered 

[Previous](#) [Next](#)

This screen gives you an idea of whether or not you have completed all the requirements to capture new data. If everything is a green checkmark the following run screen will be available.

Run



The run screen allows for you to see the data coming in as it comes in off the device. The left side of the screen will show you where in the command set tree view is currently being executed. The right side of the screen will show you the incoming data points, it will only ever show 75 data points at a time, and it will reset in between commands. For a complete chart you will need to lookup the data capture event using the **Sequence** ID given at the top of the run screen.

View Data

Search

The screenshot shows a web interface titled "View Data". On the left, there are search filters for "Company" (Bio-Stream), "Project" (Engineering), "Reader Serial Number", "Biosensor", "Sequence", "Operator", "Experiment Id", and "Procedure". Below these filters are "Search", "Clear", and "Load More" buttons. On the right, a table displays search results with columns for "Sequence" and "Procedure". A "View" button is highlighted over the second row of the table.

Sequence	Procedure
2024-06-07-00039	Test Cycle no EIS
2024-06-07-00038	Test Cycle no EIS
2024-06-07-00037	Test Cycle no EIS
2024-06-07-00036	Test Cycle no EIS
2024-06-07-00035	Test Cycle no EIS
2024-06-07-00034	Test Cycle no EIS
2024-06-07-00033	Test Cycle no EIS
2024-06-07-00032	Test Cycle no EIS
2024-06-07-00031	Test Cycle no EIS
2024-06-07-00030	Test Cycle no EIS
2024-06-07-00029	Test Cycle no EIS
2024-06-07-00028	Test Cycle no EIS
2024-06-07-00027	Test Cycle no EIS
2024-06-07-00026	Test Cycle no EIS
2024-06-07-00025	Test Cycle no EIS
2024-06-07-00024	Test Cycle no EIS
2024-06-07-00023	Test Cycle no EIS
2024-06-07-00022	Test Cycle no EIS
2024-06-07-00021	Test Cycle no EIS
2024-06-07-00020	Test Cycle no EIS
2024-06-07-00019	Test Cycle no EIS
2024-06-07-00018	Test Cycle no EIS

You can choose words or phrases to include or remove from your search results. Select the one (1) result you want to View.

View The Data

☰
View Data

Search

Data

Sequence

Export Json

Export Excel

2024-06-07-00038 PCB-GP3-E X

Captures

2024-06-07 10:46:42.065

...

- EnableADC
- EnableDAC
- LinearSweep
- EnableDAC
- LinearSweep2
- EnableDAC
- EnableADC
- SquareWave
- EnableDAC
- SquareWave2
- DisableDAC
- DisableADC

Biosensor: PCB-GP3-B14-W1-D13

Reader: BR-PCB07-000008

Settings

Name	Setting
lowVoltage	-400
highVoltage	400
numberOfSteps	25
direction	0
frequency	25
drainVoltage	-300
electrode	0

Repetitions

Number
0

Measurements

Drain Current	Gate Voltage	Gate Current
-2.606785	850.032104	0.000193
-2.628222	850.035645	0.000427
-2.642387	850.046753	0.000473
-2.65253	850.041382	0.000557
-2.64292	882.04834	0.001846
-2.640814	882.059814	0.000654
-2.642899	882.061951	0.000634
-2.645674	882.062683	0.000651
-2.633028	914.058594	0.000655
-2.625389	914.058228	0.000703
-2.624785	914.058899	0.000661
-2.624953	914.06427	0.00064
-2.61652	946.054077	0.000723
-2.601224	946.055542	0.00079
-2.598792	946.061951	0.000731
-2.597472	946.056274	0.000715
-2.596175	978.063599	0.000702
-2.571666	978.070374	0.000739
-2.568065	978.083618	0.000779
-2.565801	978.072876	0.000723
-2.564063	1010.064148	0.000738
-2.538732	1010.061951	0.000792
-2.533858	1010.05481	0.000774
-2.531025	1010.066284	0.000727
-2.528751	1042.077148	0.000788
-2.502573	1042.085083	0.00083
-2.497079	1042.092896	0.000766
-2.493424	1042.083252	0.000787
-2.490585	1074.060181	0.000765
-2.464063	1074.153198	0.0008
-2.457787	1074.151733	0.000741
-2.453535	1074.154663	0.000706
-2.450091	1096.309326	0.000702

The data screen allows you to see the raw data as it came off of the traxInsight. The top left of the screen has the command set information. Middle left has the repetitions that were captures for the selected section of the command set. The bottom left are the settings associated to the selection. The right side of the screen is dedicated to the data that comes off the traxInsight.

Edit Data

Search

Edit Data

Company:

Project:

Reader Serial Number:

Biosensor:

Sequence:

Operator:

Experiment Id:

Procedure:

Sequence	Procedure
2024-06-07-00039	Test Cycle no EIS
2024-06-07-00038	Test Cycle no EIS
2024-06-07-00037	Test Cycle no EIS
2024-06-07-00036	Test Cycle no EIS
2024-06-07-00035	Test Cycle no EIS
2024-06-07-00034	Test Cycle no EIS
2024-06-07-00033	Test Cycle no EIS
2024-06-07-00032	Test Cycle no EIS
2024-06-07-00031	Test Cycle no EIS
2024-06-07-00030	Test Cycle no EIS
2024-06-07-00029	Test Cycle no EIS
2024-06-07-00028	Test Cycle no EIS
2024-06-07-00027	Test Cycle no EIS
2024-06-07-00026	Test Cycle no EIS
2024-06-07-00025	Test Cycle no EIS
2024-06-07-00024	Test Cycle no EIS
2024-06-07-00023	Test Cycle no EIS
2024-06-07-00022	Test Cycle no EIS
2024-06-07-00021	Test Cycle no EIS
2024-06-07-00020	Test Cycle no EIS
2024-06-07-00019	Test Cycle no EIS
2024-06-07-00018	Test Cycle no EIS
2024-06-07-00017	Test Cycle no EIS
2024-06-07-00016	Test Cycle no EIS

You can choose words or phrases to include or remove from your search results. Select the one (1) result you want to Edit.

Edit The Data

Edit Data

Sequence	Buffer Name	Bait Name	Target Name	Operator
2023-09-26-00022	PBS			tallen@bio-stream.ca
Experiment Id	Buffer Concentration	Bait Isoelectric Point	Target Isoelectric Point	Run DateTime
0	67			2023-09-26 16:36:04.920
Tag	Buffer Concentration Unit		Target Concentration	Firmware Version
Verification	mM			5.2.0.3
Reader	Buffer Molar Mass		Target Concentration Unit	App. Version
BR-PCB05-003				1.0.0.22
Biosensor	Buffer Attomolar		Target Molar Mass	Reader Revision Version
B10-W4-D52				5
<input type="button" value="Change Biosensor"/>			Target Attomolar	Id
				04433073-655f-43ca-9280-2b442c604899

Comment

10X PBS

Should you have edit permissions you will be able to read and update information you entered when running a given measurement. If you do not you will be able to see all of the details entered when the experiment was being run.

Chart

Search

The screenshot shows a web application interface for a 'Chart' feature. On the left is a search sidebar with various filters. On the right is a table of search results. A blue 'Add To Chart' button is overlaid on the table, pointing to a specific row.

Search Sidebar:

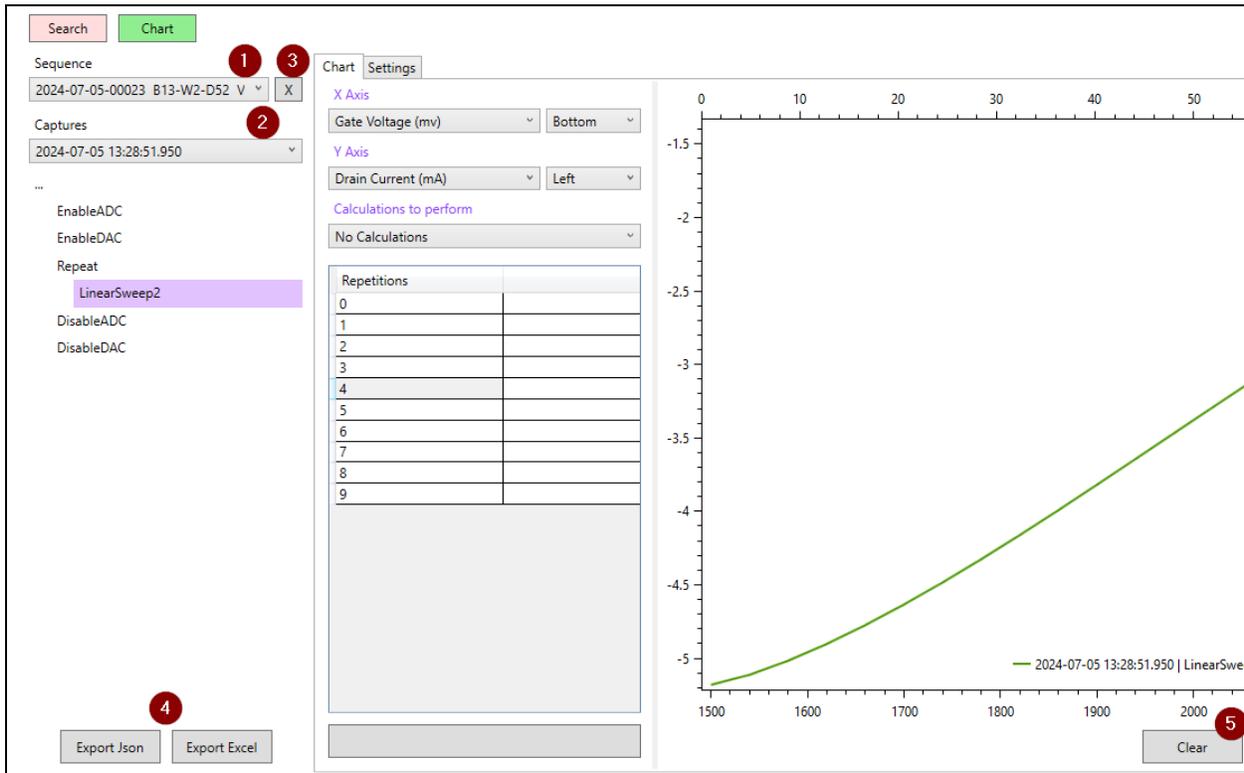
- Company: Bio-Stream
- Project: Engineering
- Reader Serial Number: [Input Field]
- Biosensor: B W D
- Sequence: [Input Field]
- Operator: [Input Field]
- Experiment Id: [Input Field]
- Command Set: [Input Field]
- Buttons: Search, Clear, Load More

Table:

Sequence	Command Set	Reader
2023-09-26-00025	10 linear sweeps	BR-PCB05-003
2023-09-26-00024	10 linear sweeps	BR-PCB05-003
2023-09-26-00023	10 linear sweeps	BR-PCB05-003
2023-09-26-00022	10 linear sweeps	BR-PCB05-003
2023-09-26-00021	10 linear sweeps	BR-PCB05-003
2023-09-26-00020	10 linear sweeps	BR-PCB05-003
2023-09-26-00019	10 linear sweeps	BR-PCB05-003
2023-09-26-00018	10 linear sweeps	BR-PCB05-003
2023-09-26-00017	10 linear sweeps	BR-PCB05-003
2023-09-26-00016	10 linear sweeps	BR-PCB05-003
2023-09-26-00015	10 linear sweeps	BR-PCB05-003
2023-09-26-00014	Resistance Check 2023-06-28	BR-PCB05-003
2023-09-26-00013	Resistance Check 2023-06-28	BR-PCB05-003
2023-09-26-00012	Resistance Check 2023-06-28	BR-PCB05-003
2023-09-26-00011	Resistance Check 2023-06-28	BR-PCB05-003
2023-09-26-00010	Resistance Check 2023-06-28	BR-PCB05-003
2023-09-26-00009	Resistance Check 2023-06-28	BR-PCB05-003
2023-09-26-00008	Resistance Check 2023-06-28	BR-PCB05-003
2023-09-26-00007	Resistance Check 2023-06-28	BR-PCB05-003
2023-09-26-00006	Resistance Check 2023-06-28	BR-PCB05-003
2023-09-26-00005	Resistance Check 2023-06-28	BR-PCB05-003
2023-09-26-00004	Resistance Check 2023-06-28	BR-PCB05-003

You can choose words or phrases to include or remove from your search results. Select the one (1) result you want to Chart.

Chart The Data



- (1) You can select any experiment you previously selected to Chart. (2) Any data captured during the selected experiment will become available in the 'Captures' dropdown. (3) You can remove all experiments you previously sent to the Chart. (4) You can export the currently selected captured data. (5) You can remove all line currently on the Chart.

Chart

X Axis
 Gate Voltage (mv) Bottom

Y Axis
 Drain Current (mA) Left

Calculations to perform
 No Calculations

Repetitions	
0	
1	
2	
3	
4	
5	
6	
7	
8	
9	

Add Chart Line

X Axis – you can select which data source will be plotted on the X axis. Additionally, you can select between the bottom or top scales the data will be bound to.

Y Axis – you can select which data source will be plotted on the Y axis. Additionally, you can select between the left or right scales the data will be bound to.

Calculations to perform – the source data, from the selections above, may be processed by the selected calculator and the calculated results will be plotted.

Repetition – captured data is partitioned into repetitions. The number of repetitions is defined by the Experiments procedure. Click on one row to select which repetition you want to plot.

Button – This button will Add or Remove data plots from the chart. The button will display *Remove* when data was already plotted, and *Add* when the selections above have not been plotted.

Calculator options:

1. No Calculators – unmodified source data will be plotted.
2. Transconductance – only available when Gate Voltage is plotted on the X Axis and Drain Current is plotted on the Y Axis.
3. Normalize - uses the formula = $(A1 - \text{MIN}(\text{range})) / (\text{MAX}(\text{range}) - \text{MIN}(\text{range}))$
4. Percent Change – uses the formula = $((\text{RawDataPoints}[i].Y - \text{RawDataPoints}[i - 1].Y) / \text{RawDataPoints}[i - 1].Y) * 100$
5. Best fit line – uses the formula = $a + b * \ln(x)$