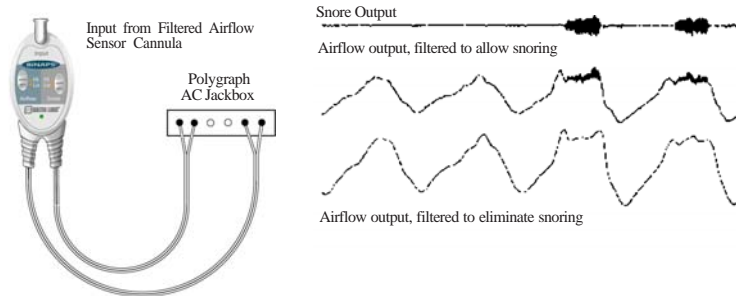


Polygraph & BiNAPS Settings	Airflow	Snoring
High Frequency Filter	5Hz or higher	70Hz or higher
Low Frequency Filter (Time Constant)	0.05Hz or lower (3 sec. or longer)	10Hz or lower (0.016sec. or longer)
Sampling Rate	10Hz or higher	70Hz or higher
Sensitivity	50µV/mm	50µV/mm
BiNAPS Hi/Lo Switch	Adjust for optimal signal amplitude	Adjust for optimal signal amplitude



CLEANING & MAINTENANCE

The BiNAPS sensor module may be safely cleaned with a damp cloth and a mild detergent.
 Do not immerse in liquids.
 No routine maintenance is required.

WARRANTY

Salter Labs warrants this product to be free from defects in materials and workmanship as long as **Salter Labs** cannulas are used. **Salter Labs cannulas must be used to protect the Lifetime Warranty of the BiNAPS®. Non use of Salter Labs cannulas will void the warranty.** Should the BiNAPS sensor module fail prematurely, the sole liability of **Salter Labs** is limited to repair or at its option replacement of the product with no charge for parts or labor. Under no circumstances shall **Salter Labs** be liable for any loss or damage, direct consequential, or incidental, including property damage or personal injury arising from the use of or the inability to use this product. This warranty is rendered void and **Salter Labs** cannot be held liable for conditions resulting from: damage, marginal performance or malfunctions caused by: misuse, abuse, neglect, improper line voltage, power fluctuations, or any adverse environmental conditions, tampering, unauthorized modifications, adjustments or repairs to the product or its accessories. This warranty is in lieu of all other warranties, expressed or implied and is extended only to the original purchaser.

IMPORTANT NOTICE: The use of non-**Salter Labs** cannulas will void the warranty.

Features and specifications are subject to change without notice.

BiNAPS®

Nasal Airflow Pressure and Snore Transducer



User Manual

Salter Labs

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INTENDED USE

The Salter Labs BiNAPS® Airflow Pressure Transducer is an accessory intended for use with polysomnography equipment during sleep disorder studies for the purpose of detecting and amplifying breathing signals and detection of snoring of a sleeping patient through a Salter Labs nasal cannula.

KEY FEATURES

- Detects airflow and snoring via nasal pressure
- Uses inexpensive disposable airflow sensor cannulas
- Small and lightweight
- No batteries required
- Hi / Lo AC jackbox signal levels
- Integral Circuit Tester / Indicator

PACKAGE CONTENTS

- BiNAPS® sensor module, Model 5500
- Sensor cannula sample pack (1 adult oral - nasal cannula #5001 (with Filter) , 1 adult nasal cannula #5011 (with Filter), 1 adult divided nasal cannula #5018, 1 pediatric oral - nasal cannula #5023)
- User's Manual, Part No. 121321
- BiNAPS and diagnostic cannula brochures

CAUTION

- This product is for diagnostic purposes only and is not to be used as an apnea monitor or in a life supporting or life sustaining situation. This device is not intended for pediatrics and infants below two years of age for the purpose of respiration or SIDS monitoring. Federal law restricts this device to sale by or on the order of a physician.

WARNING

Do not use this device with non-Salter Labs Cannulas. The use of non - **Salter Labs** cannulas will void the warranty. The patient should wear loose fitting clothing, as this will minimize the chance of the device contacting the patients skin for several hours during the test.

SPECIFICATIONS

Sensor Technology	Piezo Pressure Transducer
Output Types	Airflow & Snore
Size	2.26in X 1.37in X .68in
Weight	30 grams
Power Source	None required
Output Connectors	1.5 mm Safety
Airflow Sensor Cannula Input Connector	Female luer lock
Input Pressure Range	± 25cm H ₂ O
Signal Output Levels (Typical)	1000µV peak to peak
Operating Temperature	5° C (40° F) to 40° C (104° F)
Storage Temperature	5° C (40° F) to 40° C (104° F)
Operating/Storage Humidity	15 - 95% Non-condensing
Test Lead Receptacle	1.5 mm Plug (Male)

GENERAL INFORMATION

Airflow Output - Output is a nasal pressure airflow waveform. Output is connected to a polygraph's AC jackbox with 1.5mm safety connectors. Snoring can also be superimposed onto the airflow waveform as shown in the example on the next page. This is accomplished by setting higher values for the high frequency filter and the sampling rate for the airflow channel.

Snore Output - Output is a snoring waveform derived from snore vibrations on the nasal pressure signal. The channel has internal low frequency filter to remove the airflow signal and to provide a flat baseline between snores. Output is connected to a polygraph's AC jackbox with 1.5mm safety connectors.

Hi / Lo Switches - Are used as needed to optimize the airflow and snore signal levels into a polygraph AC jackbox. The "Hi" position will boost signal amplitudes by a factor of four, but will not boost signal amplitudes to DC input levels.

INTEGRAL CIRCUIT TESTER / INDICATOR

Plug each lead into side port to verify signal. If green light fails to illuminate, assume defective and replace BiNAPS. Remove leads from indicator port after testing.

INSTALLATION INSTRUCTIONS

1. Use Hook and Loop patches to secure BiNAPS® to AC jackbox or other convenient location.
2. Connect "Airflow" leads to the selected polygraph AC jackbox inputs.
3. Connect "Snore" leads to the selected polygraph AC jackbox inputs.
4. Install airflow sensor cannula onto the patient and insert the cannula tips into the nares. Place the cannula tubing over ears and under the chin. Slide the cinch tubing toward the neck to a comfortable fit and secure the cannula into position as needed using Tender Grip*. It is extremely important that the cannula sensor tips do not become blocked off during installation or recording. Plug the sensor cannula safety filter into the input of the BiNAPS® sensor module with a slight twist to make a secure connection.
5. Adjust polygraph settings per table on back page. These settings are recommended starting points. Polygraph and patient variables can significantly influence the settings. Note: This device is intended to be set-up and maintained by credentialed sleep lab technicians or qualified medical personnel.

* **Salter Labs**, Tender Grip, #1005, Skin Fixation System