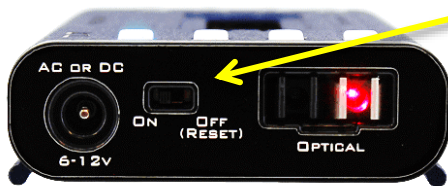


Fast Facts

The Medusa4Z Bioamp

This fast fact sheet provides basic information for the Medusa4Z Bioamp. See the System 3 Manual for more information.



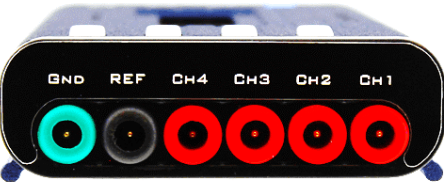
Important: The Medusa4Z has a recessed slide power switch on the left side and ships with this switch OFF. Switch this ON during initial setup.

Power Supply: 6 V – 16 V DC, > 1 A, tip polarity is irrelevant

On/Off (Reset): This should be left ON once you set the Medusa4Z. Turning it to OFF will RESET the unit to factory defaults. The switch is recessed so the user must intentionally try to move the switch.

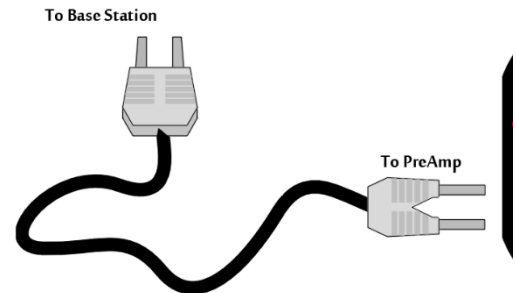
Optical: Fiber optic port for connecting the Medusa4Z to the base station. See Hardware setup for more details

GND – Ch 1: Electrodes can be plugged directly into the 1.5 mm touchproof connectors on the side, which are depicted on the left.



Hardware Setup

Use the provided fiber optic pair (black cable, white connectors) to connect the OPTICAL port on the preamplifier to the OPTICAL IN port on the base station as shown to the right. Connect one end into the RZ with the raised rectangle side up and connect the other end into the Medusa4Z with the V-shaped groove up.



Your First Steps to Recording

1. Set OFF (Reset) switch to ON
2. Press Power
3. Plug in fiber optics
4. Set desired sampling frequency
5. Go*

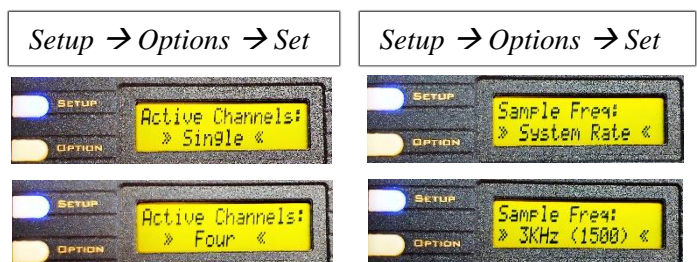
*This will run the Medusa4Z at factory settings.

DEFAULT Settings:

Active Channels: >> Single <<
 Sample Freq: >> System Rate <<
 Impedance Frq: >> 1kHz <<
 Highpass Filter: >> 3Hz <<
 Auto Shutdown: >> Never <<

How do I change my settings? *Setup* → *Options* → *Set*

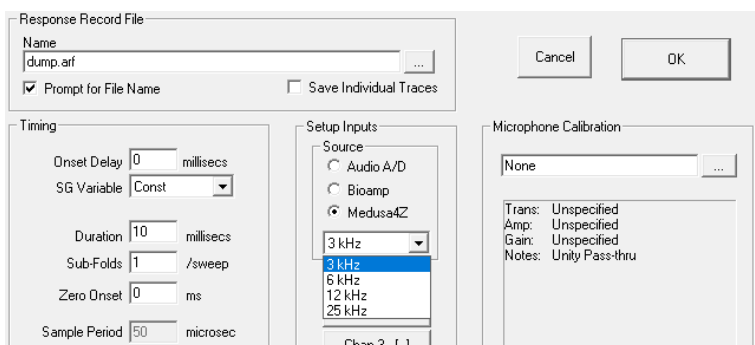
1. Press Setup to cycle through the settings categories
2. Press Option to cycle through that categories sub-options
3. Whichever value Option is left on will be the setting



Setup	Option	Notes
Active Channels	Single or Four Channel	In single channel mode, unused channels are shorted to ground
Sample Freq	3 kHz (1500), 6 kHz (3 kHz), 12 kHz (6 kHz), System Rate	System Rate is the processor's rate up to 25kHz The number in () represents the frequency content that can be acquired at the Sample Freq without aliasing.
Impedance Frq	100 Hz, 300 Hz, 500 Hz, 1 kHz	This is the probe frequency for checking the impedance of electrodes
Highpass Filter	Off, 1 Hz, 3 Hz	'Off' is a 0.1 Hz filter. There is a fixed 0.3Hz high pass analog filter on the inputs
Auto Shutdown	Never, 1 hour, 3 hours, 5 hours	After a period of inactivity, the Medusa4Z will shut itself off to preserve power. Press Power to re-energize after Auto Shutdown.

Software Configuration

★ Important: You must use TDT Software (Drivers/RPvdsEx or BioSigRZ) version 92 or later to use the Medusa4Z



In BioSigRZ:

Setup → Acquisition → Setup Inputs → Source → Medusa4Z

To avoid sample delays in your data trace, you must match acquisition rate in BioSigRZ to the Medusa4Z hardware Sample Freq (cycle Setup → Sample Freq → cycle Option). 25 kHz in BioSigRZ will be System Rate on Medusa4Z.

* 12kHz recommended for ABRs

Note: This software setting does not set the hardware sampling rate.

Medusa4Z_Input



In RPvdsEx (OpenEx, Synapse)

Use the Medusa4Z_Input Macro. Set the number of desired channels. The macro does not account for sample delays.

Maximum Voltage In	+/- 10 mV		
S/N (typical)	80 dB		
Input Referred Noise (µVrms)	Depends on Medusa4Z sample rate and electrode impedance		
	Medusa4Z Rate	Shorted	3 kOhm
	3 kHz	0.15	0.3
	6 kHz	0.25	0.4
	12 kHz	0.3	0.6
	25 kHz	0.4	0.9
Sample Delay	Dependent on Medusa4Z and RZ processor sample rates		
		(RZ at 25 kHz)	(RZ at 12 kHz)
	Medusa4Z rate	Samples	Samples
	25 kHz	24	N/A
	12 kHz	42	24
	6 kHz	76	42
	3 kHz	146	76
Battery	Li-Poly Battery 5 Ah capacity. Single channel mode, 30 hours between charges. Four channel mode, 24 hours between charges. 1000 cycles of charging, not removable by user.		