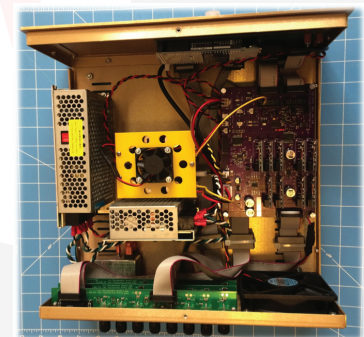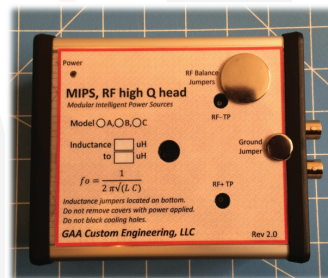# MIPS
Modular Intelligent Power Sources

Overview

MIPS produces DC and RF voltages designed for mass spectrometry applications. MIPS systems are custom configured for the customer's application. Modules can be mixed and matched to meet your specific needs. RF power sources support ion funnels and various ion guides including SLIM devices. DC power sources are available over a wide range of voltage options for bias and gating functions. Specialized modules are also available to support traveling wave signal generation as well as FAIMS high voltage waveform generation.

The MIPS system is controlled by a powerful ARM embedded controller running at a clock frequency of 84 MHz. This processor controls the output voltages as well as monitors the outputs to ensure proper operation. Digital IO is provided as well as the ability to generate complex pulse sequences for advanced control applications. These pulse sequences allow precise timed control of digital outputs and DC bias outputs allowing you to define the voltage level to be set at a specific time.

MIPS provides a USB interface to a host computer and through this interface you can control and monitor all the MIPS modules and define complex time dependent pulse sequences allowing complex control functions.

Features

- Color graphic display
- One rotary knob user control
- USB interface to host computer
- All function controllable through USB interface
- RF generation from 500KHz to 5MHz
- DC supplies from +-100V to +- 1500V
- FAIMS
- Traveling wave
- Housed in bench top enclosure or rack mount
- Digital IO
- Pulse sequence generation capability
  - Internal or external clock
  - External trigger
- Configuration storage
- Macro recording and playback
- Safety monitoring and shutdown including arc detection

Applications

The MIPS system was designed for mass spectrometry applications that require a number of RF and DC supplies. Applications such as Ion Funnels and RF Ion guides are good examples where MIPS can supply the needed voltages and capabilities.

MIPS includes the ability to generate complex pulse sequences. These pulse sequences can include timing needed for applications such as FTICR, Trapping Ion Funnels, and Ion Mobility control just to name a few. Pulse sequences are sent to the MIPS system using the USB interface and can be saved for automatic loading on system startup. MIPS allows multiple Pulse sequences to be loaded and automatically selected on each trigger. Additionally USB commands allow a host computer to change voltages and timing parameters while a pulse sequence is executing. MIPS provides the most cost effective solution available to generate complex user programmable pulse sequences consisting of both digital and a wide range of programed voltages.

GAA Custom Engineering, LLC

MIPS
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Options and pricing

MIPS control chassis is required for each system. This chassis includes the digital IO and support for up to 4 modules. $1495

Modules

RF modules support 2 channels of RF generation, each channel requires an additional RF high Q head. **$595**

DC supply modules support 8 channels per module. Two DC supply modules can be installed in one MIPS system and these can be mixed and matched, modules include:

+- 100 volts, **$495**
+- 500 volts, **$895**
+- 1500 volts, **$1095**

FAIMS module generates the control and monitoring signals used to develop a high voltage bisinusodial waveform. **$995**

Traveling Wave 8 channel pulse generation including 2 channel guard signals. **$1295**

RF heads

RF high Q head used for ion guides and funnels, requires RF module. **$395**

High power RF high Q head for high frequency and high capacitance loads, requires RF module. **$495**

FAIMS RF deck, requires FAIMS module. **$995**

All configurations include pulse sequence generation capability and the USB interface.

All systems include a comprehensive operations manual and a technical manual with full schematics and parts lists. Each system also include a thumb drive containing all design documentation including source code.

If your looking for a unique capability please contact us, we are always interested in developing new capability and expanding the MIPS capabilities. Our engineering rates are very competitive.

Many different MIPS configurations are possible, below are a few popular configurations and there total costs:

1.) Dual RF Funnel supply. Including a MIPS chassis, RF module, +-500V DC module and two RF high Q heads, **$3775**

2.) FAIMS power supply. Including a MIPS chassis, FAIMS module, and a FAIMS RF deck, **$3485**

3.) Traveling wave power supply. Including a MIPS chassis, and a Traveling wave module, **$2790**

Please contact us to define your configuration!

Contact us

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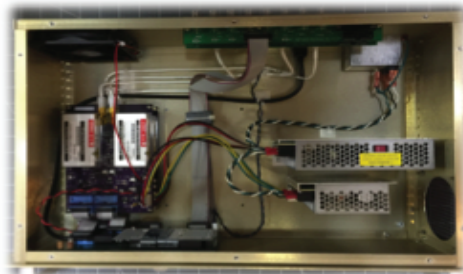
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