



Fredenstein
Professional Audio

Bento 10S
Module Carrier

Operating Manual

Fredenstein Bento 10S Module Carrier

The Fredenstein Bento 10S is a high performance module carrier for Fredenstein Series 600 modules or API-500 compatible plug-in cards. The unit can accept a maximum of 6 modules. The Bento 10S features several important upgrades compared with third party products:
Universal power supply: Mains voltages range from 90V AC to 240V AC, 50 to 60 Hz.
Increased output currents: +/-16V DC +/-3A and +48V DC 0.25A, 600mA per slot which is more than double the standard calls for.

The Bento 10S power supply is also designed for extremely low noise largely due to state of the art switching regulators that operate above 200 kHz, which is typically higher in frequency than most conventional switching regulators. They also follow “green” guidelines that minimize power consumption to only what is needed.

Other features include the capability to drive very large capacitive loads. Most other switching supplies might oscillate if presented with large capacitors to charge. The Bento 10S ramps up in a controlled manner (typically 0.2 seconds). Also unlike most +/- switching regulators, both the +16V and -16V are regulated independently and provide separate over current protection.

Auxiliary Audio Inputs and Outputs

Built-in Audio Routing: Modules can be daisy-chained by simply flipping switches on the back-panel.

Compressor buss linking: Compressor modules can be linked by engaging switches on the back-panel as well.

Multi-Layer Backplane: Increased signal integrity and lower noise floor.

Ground-lift switch: In case of ground loops, the audio ground and the protective ground can be disconnected. Please use only if absolutely necessary.

Installation:

Electrical Safety Warnings:

Do not open the enclosure, hazardous voltages are present inside!

There are no user serviceable parts inside.

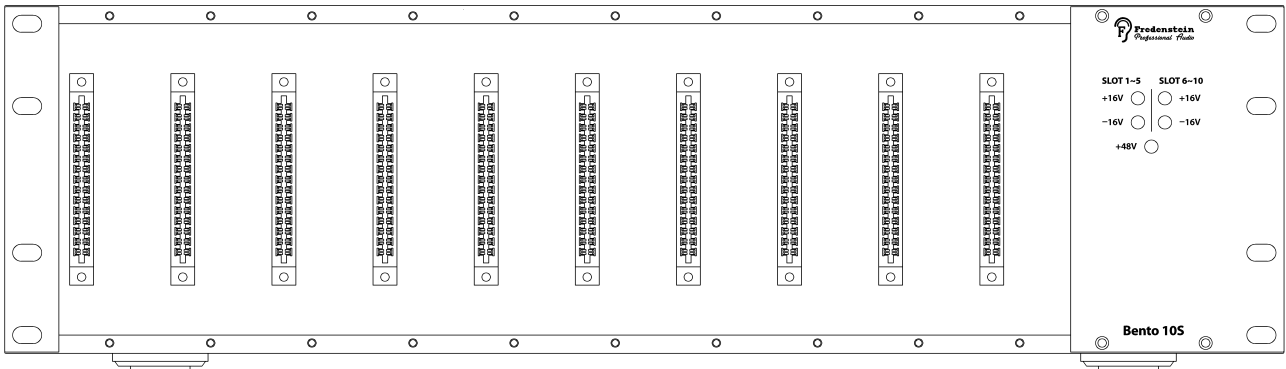
Always disconnect the mains cord before installing or removing modules!

If you need to replace the mains fuse, make sure the replacement has the same rating (3AT).

Please disconnect the mains from your Bento 10S before installing or removing modules. Make sure each installed module is well seated in the receiving connector and the module is secured by fasten the two mounting screws.

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Front View:



Operation:

After installation of the modules, connect the mains cord to the Bento 10S IEC socket located on the back-panel and then connect the mains cable to a grounded outlet. Now turn the Bento 10S on by operating the I/O switch (also part of the IEC socket on the back). The five LEDs on the front-panel will come on within 5 seconds and the Bento 10S is ready for use.

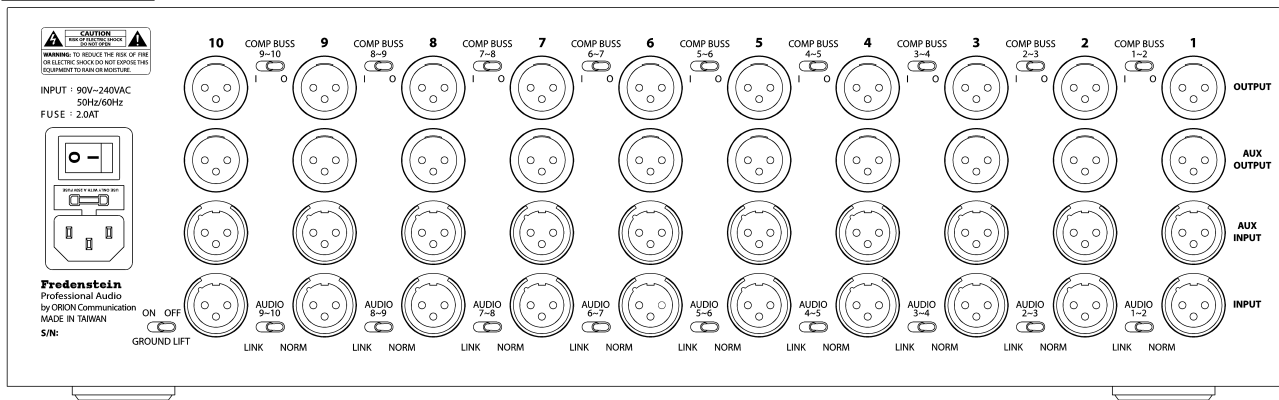
In case you want, for example, route the audio signal from a mic-pre in slot 1 to an EQ in slot 2 and then to a compressor in slot 3, turn the switches located in the lower part of the back-panel between the slot 1 and 2 and slot 2 and 3 in the link position. (Please be aware that this disables the slot 2 and the slot 3 input XLR connectors). Slot 1 input will be the microphone input and the slot 3 output will be the audio output of the complete chain.

If you are using multiple compressors which make use of the compressor link buss (Pin 6), you can link two adjacent slots by putting the buss switch in the I position. You have the flexibility to have 5 buss segments for operating five Stereo compressor setups by engaging buss switches between the slots 1 & 2, 3 & 4, 5 & 6, 7 & 8, and 9 & 10 or any other combination including a global buss if you engage all buss switches (9.1 configuration). If you are using different types of compressors, you must keep them on separate segments of the buss.

In case of severe ground loops you might engage the ground-lift to alleviate such problems. But it is always recommended to resolve the grounding problems at their source and keep the ground-lift switch disengaged (OFF position).

The AUX Input and AUX Output connectors can only be used with modules especially designed for Bento module carriers, like the Fredenstein F600, F601, F602, F603, F605, F606, and F607.

Rear View:



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Specifications:

Input Voltage: 90V AC to 240V AC, 50 to 60 Hz

Output Voltages: +16V DC 3.0A
-16V DC 3.0A
+48V DC 0.25A

Power Consumption: max. 150W

Dimension (LxHxD): 480mm x 140mm x 190mm

Weight: 4.5kg(NW) ; 6.0kg(GW)

Fredenstein Bento 10S Module Connector Pin Description

Solder Side

Pin Number	Signal
Pin 1	Frame Ground
Pin 2	Main Out +
Pin 3	AUX Out +
Pin 4	Main Out -
Pin 5	Audio Ground
Pin 6	Compressor Buss
Pin 7	AUX Out -
Pin 8	Main In -
Pin 9	AUX In -
Pin 10	Main In +
Pin 11	AUX In +
Pin 12	+16V Supply
Pin 13	Supply Ground
Pin 14	-16V Supply
Pin 15	+48V Supply

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Component Side

Pin 1	Frame Ground
Pin 2	Main Out +
Pin 3	Digital Interconnect 1
Pin 4	Main Out -
Pin 5	Audio Ground
Pin 6	Compressor Buss
Pin 7	Digital Interconnect 2
Pin 8	Main In -
Pin 9	Digital Interconnect 3
Pin 10	Main In +
Pin 11	Digital Interconnect 4
Pin 12	+16V Supply
Pin 13	Supply Ground
Pin 14	-16V Supply
Pin 15	+48V Supply

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