# Fredenstein
## Professional Audio

# Bento 10
# Module Carrier

## Operating Manual

# Fredenstein Bento 10 Module Carrier

The Fredenstein Bento 10 is a high performance module carrier for Fredenstein Series 600 modules or API-500 compatible plug-in cards in two space 19 inch rack format. The unit accepts a maximum of 10 modules. The Bento 10 features several important upgrades compared with third party products:

Universal power supply:  accepting mains voltages from 90V AC to 240V AC, 50 to 60 Hz.

Increased output currents: +-16V DC 3.2A and +48V DC 0.3A

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:
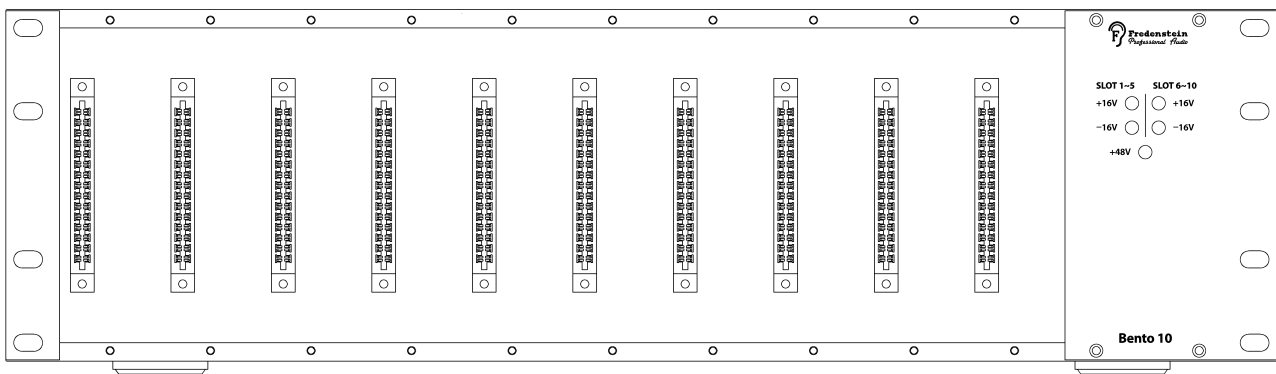## Do not open the enclosure, hazardous voltages are present inside!
## There are no user serviceable parts inside.
## Always disconnect the mains cord before installing or removing modules!
## If you need to replace the mains fuse, make sure the replacement has the same rating (3AT).


Please disconnect the mains from your Bento 6 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.

## Front View:

# Fredenstein Bento 10 Module Carrier

## Operation:

After installation of the modules, connect the mains cord to the Bento 10 IEC socket located on the back-panel and than connect the mains cable to a grounded outlet. Now turn the Bento 10 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 10 is ready for use.
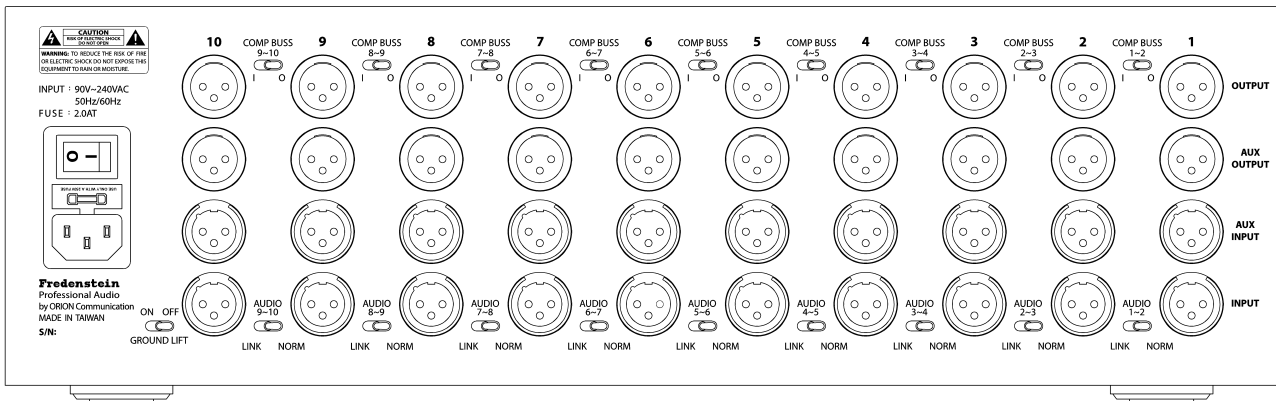
In case you want, for example, route the audio signal from a mic-pre in slot 1 to an EQ in slot 2 and then to a compressor in slot 3, turn the switches located in the lower part of the back-panel between the slot 1 and 2 and slot 2 and 3 in the link position. (Please be aware that this disables the slot 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 F604, F605, F606, and F607.

## Rear View:

# Fredenstein Bento 10 Module Carrier

## Specifications:

Input Voltage:       90V AC to 240V AC, 50 to 60 Hz
Output Voltages:    +16V DC 3.2A
                 -16V DC  3.2A
                 +48V DC 0.3A
Power Consumption: max. 150W

Dimension (LxHxD): 480mm x 140mm x 190mm
Weight:          4.5kg(NW) ; 6.0kg(GW)

## Fredenstein Bento 10 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 |

# Fredenstein Bento 10 Module Carrier

## 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 |

**Contact Info:**

**Fredenstein Professional Audio**
by Orion Communication
7F-1, No. 582, Ruei Guang Rd.
Neihu District
Taipei 114
Taiwan

Phone  :       + 886-2-2657-2618
Email  :       info@fredenstein.com
Web    :       www.fredenstein.com