

## Product Overview

The Bose® Panaray® system digital controller II is a universal EQ controller engineered to provide active equalization and signal processing for Bose professional loudspeakers. It features a complete set of Bose active equalization presets. No programming is required.

## Product Information

The Panaray System Digital Controller II utilizes digital signal processing (DSP) architecture to provide active equalization and signal processing for Bose professional loudspeakers. The controller features a complete set of Bose active equalization presets. Individual input sensitivity and output range, as well as master output level, are adjustable via the user interface buttons and LCD display on the front panel. Push-button control and an easy-to-read 2 x 16 backlit LCD allow for simple selection of Bose® loudspeaker configurations and EQ settings.

The Controller can be configured for mono or stereo operation. A bass mono sum feature is available for situations where stereo mid/high loudspeakers are paired with a single bass loudspeaker. The controller offers configurations designed for bass array applications. It also offers global limiting to protect against unpredictable spikes in program material.

A special "lockout" feature prevents tampering to maintain initial system settings, and global limiting helps protect against sudden sound level spikes in program material. In the event of a power failure, on board memory allows the controller to return to its last state.

## Applications

Designed for a wide range of applications, including:

- Auditoriums
- Houses of worship
- Performing arts venues
- Theme parks
- Conference centers
- Hotels
- Arenas

## Key Features

- **Two balanced** differential XLR inputs and four balanced differential XLR outputs
- **Preset active** equalization settings for all Bose professional loudspeakers
- **Bass mono** sum option for using a single low-frequency loudspeaker with stereo mid/high loudspeakers
- **Bass array** presets for Panaray bass loudspeakers
- **Special "lockout"** feature prevents tampering to maintain initial system settings
- **Global limiter** protect function option
- **Easy-to-read** 2 x 16 backlit LCD display
- **Signal input** and clipping LED indicators
- **RS232 connector** for software updates

## Technical Specifications

Audio Performance Specifications	
Frequency Response	20 Hz - 20 kHz (+0/-1 dB)
THD	0.003 % (typical)
Channel Separation (Crosstalk)	100 dB (typical)
Dynamic Range	103 dB (typical)
Integrated DSP	
Audio Latency	1.52 ms
A/D and D/A Converters	24-bit
Sample Rate	44.1 kHz
Audio Inputs	
Input Channels	2 channels
Inputs	2 analog, balanced, differential
Connectors, Input	XLR
Input Impedance	Differential 2.21 kΩ @ 1 kHz
Maximum Input Level	+18 dBu
Sensitivity	Selectable: 0/+6/+12/+18 dBu
Audio Outputs	
Outputs	4 analog, balanced, differential
Connectors, Output	XLR
Output Impedance	Differential 200 Ω
Maximum Output Level	+18 dBu (balanced)
Output Ranges	Selectable: 0/+6/+12/+18 dBu (balanced)
Indicators and Controls	
LED Status Indicators	Green LED: signal present, Red LED: signal clip
Electrical Specifications	
Mains Voltage	100 VAC to 240 VAC, 50 Hz to 60 Hz (auto-select)
AC Power Consumption	15 W
Physical	
Dimensions	1.8" H x 19.0" W x 8.6" D (45 mm x 483 mm x 218 mm)
Net Weight	5.9 lb (2.7 kg)
Shipping Weight	7.8 lb (3.5 kg)
Operating Temperature	32 °F - 104 °F (0 °C - 40 °C)
Storage Temperature	-4 °F - 122 °F (-20 °C - 50 °C)
Humidity	95 % relative humidity
General	
Communication Port	RS-232 serial port (for software updates only)

# Panaray® System digital controller II

# BOSE®

TECHNICAL DATA SHEET

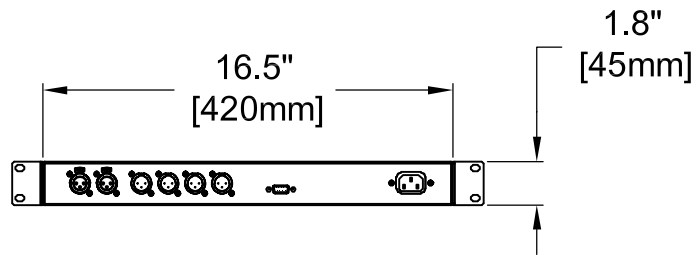


1. **Standby button:** On/Off
2. **Display:** The 2x16 LCD displays preset names and parameter values
3. **Navigation Controls:** Press to navigate through the user interface
4. **Select/Load:** Loads presets and selects utility mode
5. **Signal/Clip LEDs:** Illuminates to show input level or input clipping. 1 each per channel.
6. **Removable rack ears**

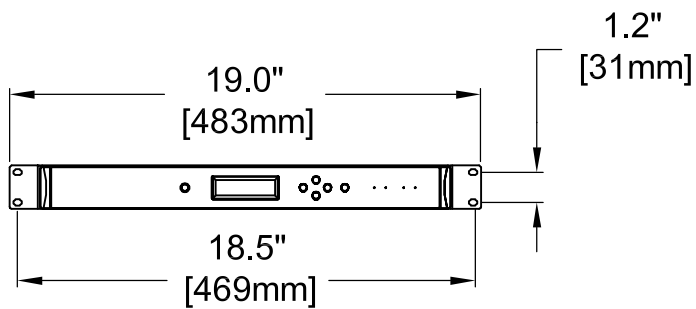


1. **INPUTS:** **Ch1/Mono:** Balanced XLR Input. **Ch2:** Balanced XLR Input
2. **OUTPUTS:** **Ch1-4:** Balanced XLR Output
3. **COM:** RS232 - for software updates only
4. **IEC Power:** IEC power cord input

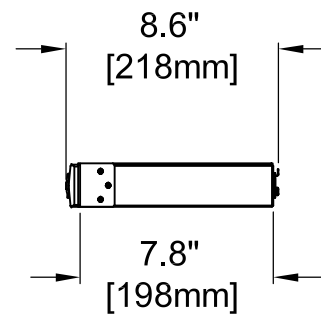
Mechanical Diagrams



Back View



Front View



Right View

# Panaray® System digital controller II



## Architects' and Engineers' Specifications

The controller shall use a digital signal processing architecture running at a 44.1 kHz sample rate. The frequency response shall be from 20 Hz to 20 kHz (+0/-1 dB). The dynamic range shall be 103 dB (typical) 20 Hz to 20 kHz.

The controller shall include a single analog, balanced, differential XLR input connector for each of the two input channels. It shall have a single analog, balanced, differential XLR output for each of its four outputs. The maximum input level shall be +18 dBu. The maximum output level shall be +18 dBu. The input impedance shall be 2.21 k ohms for balanced operation. The output impedance shall be 200 ohms.

The throughput delay time through the controller shall be 1.52 ms. Crosstalk shall be < -100 dB (typical).

The THD shall be < 0.003 % (typical). A 9-pin RS232 connector COM port shall be used for software updates. The power supply shall be auto switching from 100 VAC to 240 VAC, 50 Hz to 60 Hz. Power consumption shall be < 15 W.

The controller shall be the Bose® Panaray® system digital controller II.

## Safety and Regulatory Compliance

The Panaray system digital controller II complies with CE requirements, and is cUL listed according to UL60065 (7th edition) and CAN/CSA C22.2 No. 60065-03, CB approved according to IEC60065 (7th edition) including group and national differences, GS approved according to EN600065 (7th edition) and is PSE compliant. It also complies with FCC Part 15B Class A (2003), EN55103-1 (1997), EN55103-2 (1996), and CISPR13 (2003) requirements.

## Product Codes

120V – US	PC 040500
230V – EU	PC 040502
100V – Japan	PC 040501
230V – UK	PC 040503
240V – AU	PC 040504