



TENDZONE

# WebGem 1616

DIGITAL AUDIO PROCESSOR



## WeGem 1616 DSP Overview

The Tendzone WebGem 1616 DSP offers a thorough array of adaptable audio DSP tools tailored for AV integrators. This DSP features 16 analog audio inputs and outputs, meeting a wide range of audio processing requirements. With Tendzone's intuitive Web-UI, the DSPs allow for standard bidirectional control using RS-232, TCP/IP, and GPI, ensuring compatibility with many popular third-party control systems. For on-site management, users can design a personalized web control interface that functions on multiple platforms, such as Windows, iOS, macOS, and Android. The Tendzone WebGem series combines robust audio processing functionality with versatile control options, making it an excellent choice for AV integration projects in places like conference rooms, educational institutions, hotels, and courtrooms.

## Features

- ❖ The device features 16 balanced microphone/line inputs with a 48V phantom power soft switch.
- ❖ Experience exceptional sound quality at 48kHz/24bit.
- ❖ The optimized preamp gain offers multiple adjustments at 0dB, 10dB, 20dB, 30dB, and 40dB, making it suitable for both MIC and LINE levels.
- ❖ It includes a USB2.0 audio interface for recording and playback via a USB drive.
- ❖ The USB-B sound card interface supports 2x2 audio transmission, compatible with devices running Windows, iOS, Android, and HarmonyOS.
- ❖ Adaptive Echo Cancellation (AEC) efficiently removes echoes during video conferences.
- ❖ Adaptive Feedback Cancellation (AFC) employs a high-speed floating-point digital algorithm to suppress feedback on each microphone channel.
- ❖ Automatic Gain Control (AGC) ensures consistent output volume regardless of the speaker's distance from the microphone, benefiting the audience.
- ❖ An intelligent Ducker feature allows for easy suppression of background music, highlighting vocal clarity.
- ❖ The instant response limiter protects downstream equipment effectively.
- ❖ Gain sharing Automatic Mixing (AM) and threshold-based Automatic Mixing (GAM) simplify the management of multiple microphone combinations.
- ❖ Input and output level control ranges can be set, limiting the maximum and minimum values to enhance system usability.
- ❖ The intuitive graphical software control interface is based on a B/S architecture, enabling parameter adjustments through a browser with support for both English and Chinese.
- ❖ Users can customize the interface, which is cross-platform compatible with various operating systems, including

Android, iPad, Windows, HarmonyOS, and KylinOS.

- ❖ A 1.8-inch color LCD displays device name, IP address, input/output levels, mute status, current scene, and software version.
- ❖ There are 8 configurable GPIO interfaces that can be set via software for input or output.
- ❖ The device supports third-party control protocols, allowing management and control via UDP or RS-232.

## Application

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|------------------|------------------|---------------------|
| ❖ Hotels         | ❖ Courtrooms     | ❖ Meeting Rooms     |
| ❖ Lecture Halls  | ❖ Classrooms     | ❖ Conference Center |
| ❖ All Hand Space | ❖ Training Rooms | ❖ House of Worship  |

## SPECIFICATIONS

General Performance	
Frequency Response(A/D/A)	20Hz~20kHz (±0.5dB)
Sampling Rate	48kHz,24bit
Dynamic Range(A/D/A)	>110dB, A-weighted (20Hz-20kHz@0dB Gain)
THD	≤0.005%@1kHz, +4dBu
Latency (A/D/A)	5.8 mS, inputs routed to outputs
Noise Floor (A-weighted)	≤-90dBu
Crosstalk	≤-105dB@+20dBu, 1kHz
S/N Ratio	>110dB, A-weighted (20Hz-20kHz@0dB Gain)
Channel Isolation	≤-105dB@+20dBu, 1kHz
Preset Numbers	50
Audio Input/Output	
Model	WebGem 1616
Connector	3.81 mm terminal blocks
Number of Analog Channels	16in16out
Phantom Power	DC 48±6V,10mA
Input Impedance	2KΩ balance
Output Impedance	200Ω balance
Maximum Input Level	20dBu
Maximum Output Level	20dBu
Max Input Gain	40dB
Front Panel	
Indicator Light	Power/RUN/LINK
Display Screen	1.8" colour LCD display Displays device name, IP address, input/output level and mute status, current scene, software version

Select Button	A push-to-turn button
<b>Rear Panel</b>	
UAC(USB Bidirectional Audio)	2x2 sound card, sampling rate 48kHz,16bit, interface type USB-B, data transmission protocol USB2.0;
USB	Interface type is USB-A and the data transfer protocol is USB2.0. Support recording and playback, can play MP3/WAV format audio files, support FAT32 format U disk, recording file format WAV
RS232	4pin 3.81Phoenix terminal
GPIO	8ch ,customized input and output, 12pin 3.81 Phoenix terminal
LAN (TCP/IP Network Port)	Ethernet 10/100/1000MB RJ45
<b>Electrical and Physical Parameters</b>	
Power Supply	AC100-240V±10%, 50/60Hz
Power Consumption	24W
Operating Temperature	0°C-45°C
Relative Humidity	30%~70%R.H.
Dimensions	484mm*280mm*44mm
Package size	570mmx410mmx135mm
Net Weight	3.1Kg
Shipping Weight	3.6Kg

## Rear Panel

