MÜLLER-BBM
ACOUSTIC SOLUTIONS

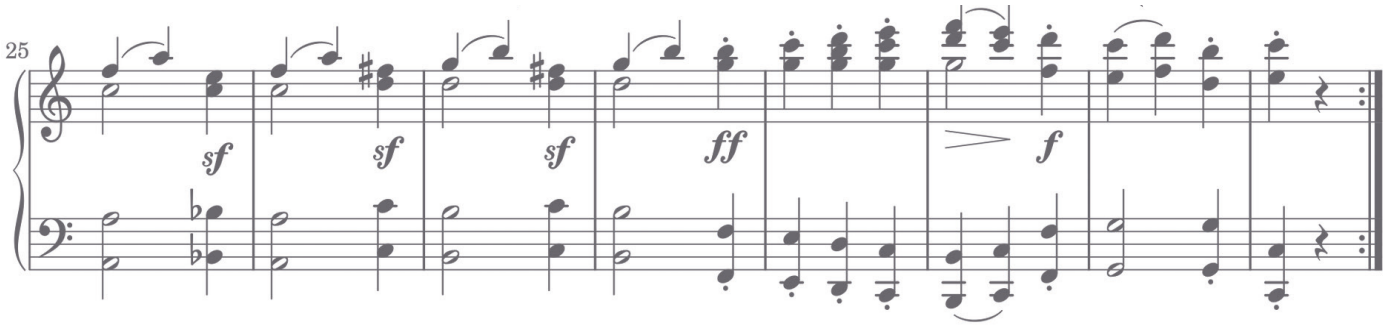
Vicello

ROOM-ACOUSTIC SYSTEM VICELLO

With the electronic room-acoustic system VICELLO you transform your room into a concert hall with natural-sounding acoustics. At the push of a button acoustically dry and damped rooms develop a vivid and free room sound, multiplying the joy of singing and making music. Suddenly the room carries the music and a clean intonation becomes an effortless matter of course.

Like in a concert hall, room acoustics also play the decisive role in an auditorium, assembly hall, a multipurpose hall or in the hall of a music school. Only if the sound of the instruments can fully develop, the artistic performance becomes a really unique experience for musicians and audience. With the right acoustics the room will be the instrument, a vivid and important part of the music.

Small live rooms are often too loud. With VICELLO the music will not be louder, it remains detailed and transparent. After a short familiarization, it is hardly imaginable how music was played in this room before.



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Application range

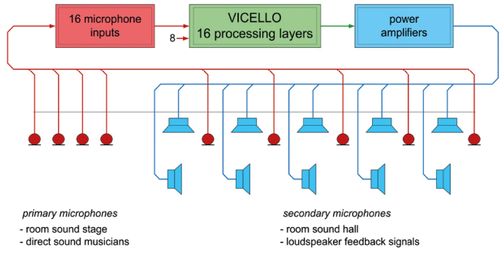
VICELLO is an electronic room-acoustic system for music schools, rehearsal rooms and studios as well as for smaller auditoriums and conference rooms for the active design of room acoustics by means of electronic signal processing. Also in church rooms where room acoustics do not provide the sound support required for the organ, VICELLO offers completely new possibilities.

VICELLO is the basic version of the electronic room-acoustic system VIVACE. Whereas VIVACE with its comprehensive processor layers, manifold setting possibilities for the user as well as 3D-audio is perfectly suitable for concert halls, theatres, etc., VICELLO convinces with easily recallable setups for different room sounds. Thus, VICELLO is only suitable up to a certain room size and only for certain applications.

Principle

The VICELLO processor supports a maximum of 16 input channels for miniature microphones and 24 output channels for power amplifiers, where up to 30 loudspeakers can be connected. The microphones are each positioned between the loudspeakers to register the room sound as well as the emitting loudspeaker signal for regenerative processing.
The basic version of VICELLO uses the same processing algorithms as the room-acoustic system VIVACE which has been operated for many years worldwide in famous opera houses and concert halls and used enthusiastically by renowned orchestras, conductors and soloists. All signals and impulse responses are processed at a sample rate of 48 kHz and an amplitude depth of 24 bit. The registered microphone signals are combined with especially developed impulse responses and convolution algorithms to tonally widen and optimize the room in its perception without audible alienation.

The individual loudspeaker contributes to the room sound only with a small share. Therefore the loudspeaker signals are not perceivable even at directly adjacent audience seats. It is only by superimposing the different loudspeaker signals, that the modified room sound is created. The added energy shares homogeneously blend in the room sound and do not differ from natural acoustics. This is also reflected in measurement recordings.



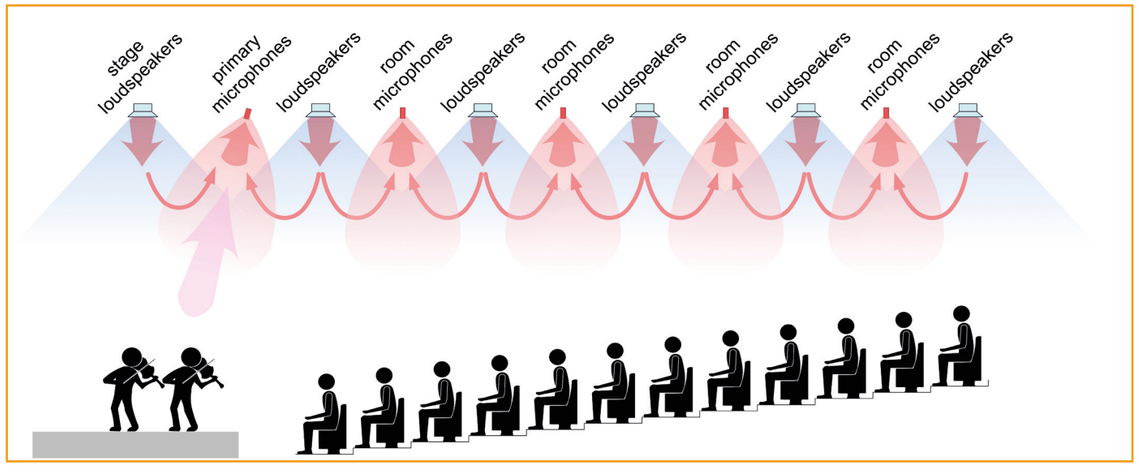
In order to use the installed loudspeakers also for surround sound and recordings, eight additional audio ports are available to enable the playback of line signals from a mixing console or a surround sound processor. These signals are assigned to the desired loudspeaker channels in coordination with the user during programming.

Planning and installation

The system is delivered as a complete system comprising processor, all audio-interfaces required, power amplifiers, loudspeakers including mounting brackets and microphones. The system is planned by using a 3D room model in which the positions of the microphones and loudspeakers are defined. The executing company installs the devices according to the planning documents submitted.

In addition, the following devices and services are to be supplied by the executing company:

- Complete wiring
- Cabinet (19“ rack, at least 20 height units)
- WLAN network including system switch
- Power supply
- Installation of all loudspeakers and microphones according to the planning documents



The planning and the approval for the executing company as well as the complete calibration are performed by the acousticians of Müller BBM Acoustic Solutions GmbH. For the first commissioning and calibration an internet connection to the Müller-BBM ASO server is required. After calibration, up to 12 presets are available with different sound characteristics for various requirements reaching from the soloist rehearsal up to a choir concert.

The presets are selected via a web-browser app via WLAN, using any network-compatible device (e. g. Android, iPhone, iPad, Windows tablet or notebook). The app is password-protected so that unauthorized access is excluded. The WLAN, IP addresses and the app password can be defined by the user.

Technical Specifications

Processor

- Audio Processing: 48 kHz, 24 bit
- Frequency Response: 20 Hz – 20 kHz
- Channels: 16 Inputs, 24 Output
- Audio Interface: MADI optical or ADAT optical
- Control: Ethernet WLAN, Web Browser App
- Power Supply: 100 – 240 V 50/60 Hz
- Power Consumption: 150 W
- Operating Temperature: 0 – 40 °C
- Dimensions (W x D x H): 19“ (483 mm), 600 mm, 4 RU
- Weight: approx. 12 kg

Audio Interfaces

- 2 Microphone Preamps, each 8 Inputs, 8 line audio Outputs
- 1 DA Interface, 16 line audio Outputs
- Inputs: Microphone Impedance: 3 kOhm
  Phantom Power: 48V
  Dynamic Range: 117 dB
  THD+N -110 dB (0.0003%)
  XLR Microphone Inputs
- Outputs: Output Impedance: 100 Ohm
  THD+N -110 dB (0.0003%)
  Signal Outputs TRS-Jack
- Frequency Response (+0, -0.1 dB): 20 Hz - 20 kHz
- Dimensions, total (W x D x H): 19“ (483 mm), 500 mm, 3 RU
- Weight, total: approx. 3 kg

Power Amplifiers

- 3 8-Channel Power Amplifier 8 x 200 W
- Input Connectors: 12-pin Phoenix
- Output Connectors: 8-pin Phoenix
- Dimensions, total (W x D x H): 19“ (483 mm), 500 mm, 6 RU
- Weight, total: approx. 60 kg

Loudspeakers

- 2-Way Passive Loudspeakers, 5“-Lo/Mid and 1“-Calotte Horn
- Program Power: 160 W
- SPL: 88 dB
- Max. SPL: 110 dB
- Dispersion (h x v): 90° x 90°
- Frequency Response: 60 Hz - 20 kHz
- Nominal Impedance: 8 Ohm
- Dimensions (W x H x L): approx. 165 x 285 x 200 mm
- Weight, each Loudspeaker: approx. 4,5 kg
- Color: white or black

Microphones

- Microphone Characteristic: Cardioid
- Frequency Response: 30 Hz - 20 kHz
- Sensitivity: –39 dB (11.2 mV)
- Impedance: 250 Ohm
- Dimensions: Length 34 mm, Diameter 12 mm
- Color: white or black

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