ENCIRCLED Spatial Audio Processor
for immersive sound experiences

The ENCIRCLED Spatial Audio Processor is the heart of IOSONO immersive sound systems. The fully integrated IOSONO inside software comes with a variety of features ensuring an easy installation and adaptation to individual venues. IOSONO inside supports object-based audio as well as all standard and future discrete multi-channel audio formats.

The ENCIRCLED Spatial Audio Processor comes with standard audio interfaces, remote control protocol and synchronization with other media, guaranteeing a smooth integration into show control systems. IOSONO sound systems are scalable, adapting to your preferences and the characteristics of your venue. By supporting a flexible number of loudspeakers as well as 2D and 3D setups, the systems fit in perfectly.

Pre-Production and Live Mixing made possible

With the Spatial Audio Workstation plug-in, immersive soundscapes are easily and precisely created. The plug-in runs exclusively in Steinberg's Nuendo workstation and supports up to 64 channels.

The Scene Designer within IOSONO inside lets you create sound-scenes based on incoming live input signals. It is the tool for live mixing with IOSONO and comes with a set of useful features for each object and complete scene switching for multiple objects. OSC interfacing opens limitless possibilities for spatial mixing with external control devices.

Venues & Hospitality – create moments to remember

Be it for concerts and live events or visitor attractions like museums or dome shows, IOSONO sound systems offer reliability, an easy integration into other show systems and a listening experience your audience won't forget.

Retail & Branding – amplify your message with sound

Let your brand message stand out with a truly immersive media experience. The IOSONO technology engages your customers in showrooms, flagship stores or at product events.

Created: 09. Nov. 2022
Technical specifications are subject to change without prior notice.
Please check www.encircled-audio.com for latest information.

《ENCIRCLED》

Datasheet

Dimensions and weight

Housing: 19 in. / 4 RU
Dimensions (without connectors): 482 mm (W) x 178 mm (H) x 510 mm (D) / (19 in. (W) x 7 in. (H) x 20.1 in. (D))
Built in depth (with connectors): 540 mm (21.3 in.)
Weight: 14.2 kg (31.3 lb)
Shipping dimensions: 600 mm (L) x 570 mm (W) x 310 mm (H) / (23.6 in. (L) x 22.4 in. (W) x 12.2 in. (H))
Shipping weight: 19.5 kg (43 lb)

Environmental conditions

Operating temperature: +10°C to +32°C (+50°F to +90°F)
Operating humidity: 10% to 75% non condensing
Storage temperature: -20°C to +50°C (-4°F to +122°F)
Storage humidity: 5% to 95% non condensing

Power supply

Voltage range: 100 - 240 VAC
Frequency range: 50 - 60 Hz
Current range single [redundant]: 4 - 2 A [2 x 4 - 2 A]
Connection single [redundant]: 1 x IEC 60320-1 C14 [2 x IEC 60320-1 C14]

Controls

Remote control: Operation with any VNC client software provides remote control of all functionalities over standard TCP/IP network connection. Static IP and DHCP possible.
Media control commands can be received via network.
Power button / power LED: Boots up / shuts down system and indicates machine state

Connectors shared by all product configurations

USB: 1x USB 3
MAIN ethernet port (Remote control): 1x Gigabit ethernet, RJ45
AUX ethernet port: 1 x Gigabit ethernet, RJ45
Wordclock input: 1x BNC 75 Ω
Wordclock output: 1x BNC 75 Ω
Linear timecode (LTC) input: 1x BNC 75 Ω

Available hardware configurations

E.SAP M: 1x Madi I/O with 64 mono ch.
E.SAP M PSU: x Madi I/O with 64 mono ch. + redund. power
E.SAP MM: 2x Madi I/O with 128 mono ch.
E.SAP MM PSU: 2x Madi I/O with 128 mono ch. + redund. power
E.SAP AA: 2x AES I/O with 32 mono ch.
E.SAP AA PSU: 2x AES I/O with 32 mono ch. + redund. power

Audio Connections

Number of connectors depends on hardware configuration

MADI input optical: 1x SC per 64 channels MADI input electrical: 1x BNC 75 Ω per 64 channels
MADI output optical: 1x SC per 64 channels MADI output electrical: 1x BNC 75 Ω per 64 channels
AES/EBU input/output: 1x Sub-D (DB-25F with UNC 4-40) per 8 mono input/output channels

Standard software functionality

Rendering: 2D and 3D rendering for loudspeaker setups consisting multiple layers and dome shapes, IOSONO algorithm based on wave field synthesis and 3D VBAP algorithm
Player: Playback of object based IOSONO content from internal storage as well as streamed content from external devices. Playback of 48 kHz multichannel wave files from internal storage. Synchronisation possible over LTC timecode input
System tuning: Acoustical tuning and sound improvement of an IOSONO system based on multiple microphone measurements and individual FIR filters for every loudspeaker output

Formats: Object-based and discrete multi channel audio
Clock synchronisation: via audio input, wordclock input and video input
Playback synchronisation: Timecode input via audio input channel or dedicated analog LTC input (BNC)
Sample rates: Processing at 44.1, 48 and 96 kHz

Software options

Render+:   Real-time processing of 5.1 and 7.1 audio input signals for enhanced spatial distribution of audio scenery

Certificates

C E

Created: 09. Nov. 2022
Technical specifications are subject to change without prior notice.
Please check www.encircled-audio.com for latest information.

《ENCIRCLED》