

# Intelligent Network Event Monitoring System

# MeTrao

by Event Acoustics

## AB-1 Class 1

The only noise control system to not only measure data but also provide comprehensive solutions. Through this unparalleled tool, MeTrao Network sound level monitoring systems provide audio professionals and event organizers with a quick and easy way to measure and observe the increasingly strict sound level regulations prevalent today.



### MeTraoPat® algorithm

This is groundbreaking technique exclusive to MeTrao systems, based on pattern recognition algorithms. The system can identify and calculate the contribution of a single sound source in an environment with multiple sources (at 1/3 octave resolution) by comparing audio inputs, even across an Ethernet network in real time.

### Main features

The AB-1 acquisition box is a 2/4 channel Class 1 (IEC 61672:2013, IEC-61260) sound measuring system containing extra inputs and outputs for other sensors like weather, pressure, vibration etc. The main purpose of the AB-1 is to be used by experts as a measuring station for legal Class 1 measurements. It provides the expert with all the necessary sound parameters to be measured like, dB(A),dB(C), LAeq, LCEq, LAMax etc. The system boasts innovative prediction tools, 1/3 octave frequency analyzer, chat function and a local web server for extra views. By comparing channel 1 or 2 the MeTraoPat® algorithm can exclude the contribution of the audience noise from the measured level. Data storage, reporting and set up can be done locally or via a subscription in the cloud. A dedicated outdoor weather kit is also available. All international standards are supported (DIN 15905-5, Vlare II, NED covenant, etc).

### Applications

#### Venue Control

FOH or Environment measurement station for measurements according to the worlds highest standards (Class 1) Stand alone or part of a MeTrao Venue sound measurement network. Stand alone recording or/and reporting or via MeTrao Webface

#### City Control

Outdoor Environment measurement station for legislative measurements according to the worlds highest standards (Class 1). Stand alone or part of a MeTrao City Noise Management network. Stand alone recording and reporting or via MeTrao Webface

#### Event Control

Outdoor Environment measurement station for legislative measurements according to the worlds highest standards (Class 1). Stand alone or part of a MeTrao Event Noise Management network. Stand alone recording and reporting or via MeTrao Webface. Additional sensor inputs for a variety of other parameters like, wind, pressure, energy.etc.

### Features

- Class 1 IEC 61672:2013 sound level measurements (PTB type approval pending)
- 2 simultaneous sensor inputs (4 with optional AB-1ex expansion box)
- 1 IEPE/ICP constant current input on BNC connector (3 with optional AB-1ex expansion box)
- 1 +48V phantom powered mic-line input on XLR connector (not available when AB-1ex is connected)
- 1/3 octave real-time analysis
- FFT analysis 1024 lines in selectable frequency band
- Time-domain signal recording on USB storage
- Advanced database-based logger with 1 year of build-in storage (1 channel, all data)
- Ethernet connectivity for networkable large-scale systems and remote display options
- Optional MeTrao Cloud Web-based storage, monitoring and highly advanced analysis tools on subscription basis
- Correlation technique

## Technical specifications AB-1

<b>Sound Level Meter</b>	Standards:	IEC 61672:2013 Class 1 (PTB type approval pending)
	Values:	SPL, Leq, Lmax, Lmin, Lpeak
	Analyzer:	1/3 octave real-time analysis compliant with IEC-61260
	Weighting Filters:	A, C, Z
	Time Constants:	Slow, Fast, Peak
	Resolution:	0.1 dB
	Dynamic Range:	15dB(A) RMS - 138dB(Z) peak
	Microphone:	Microtech Gefell MV210+MK255, 50mV/Pa, prepolarized ½ inch condenser
	Internal Noise Level:	less than 12dB(A)
	Linearity Range:	22dB(A) RMS - 138dB(Z) peak
	Frequency Range:	3.15Hz - 20kHz with Microtech Gefell MV210+MK255 microphone
<b>Vibration Level Meter</b>	Standards:	DIN45669, DIN4150, ISO 8041, SBR-A
	Meter mode:	RMS, MAX, Peak, Peak-Peak, loudest frequency detection
	Analyzer:	1/3 octave real-time analysis compliant with IEC-61260 FFT analysis 1024 lines in selectable frequency band
	Dynamic Range:	123dB unweighted
	Filters:	HP1, HP3, HP10, VEL1, VEL3, VEL10, Wh
	Accelerometer:	Visong 16500, 50mV/ms <sup>2</sup> , Tri-Axial IEPE Accelerometer
	Measurement Range:	100m/s <sup>2</sup> with Visong 16500
	Frequency Range:	0.35Hz - 2kHz with Visong 16500
<b>Additional I/O</b>	Analog:	2x 0-10Volt 12bit inputs on phoenix connector (10x with optional AB-1ex expansion box)
	Serial:	1x RS232/422/485 multiprotocol port on phoenix connector (3x with optional AB-1ex expansion box)
	PWM:	1x PWM fan-control output
	Relay:	2x NO/NC SPDT relays
	Expansion:	1x expansion connector for AB-1ex connection
	HDMI:	1x HDMI connection for local display connection
	Ethernet:	1x 10/100Mbit Ethernet port, optional Power over Ethernet
	USB:	1x USB2 port for mass storage devices
	Power:	1x 12Volt DC input
<b>General Data</b>	Input:	IEPE/ICP on BNC connector, +48V phantom mic-line on XLR connector
	Dynamic Range:	123dB unweighted
	Frequency Range:	0.1Hz - 22kHz, sampling rate 48kHz
	Data storage:	All measurement parameters in 1 second logging steps
	Display:	External HDMI display
	Internal Memory:	2GB for measurement parameters
	External USB Memory:	Maximum 1TB for measurement parameters and audio recordings
	Interfaces:	USB2.0 Host port, 10/100Mbs Ethernet port, RS232/422/485 port, 2 analog input ports, 2 relay ports, 1 PWM fan port
	Power supply:	12Volt DC, 2A
	Power supply range:	9-14Volt DC, maximum 20Watt
	Network power supply:	Power Over Ethernet IEEE802.3at standard (PoE optional)
	Temperature range:	-10°C to +50°C
	Humidity:	Up to 90% RH, non-condensed
	Dimensions / Weight:	74(h) x 210(w) x 200(d) mm / 0.8kg

*Event Acoustics consists of a team of acoustic consultants, engineers and software developers with years of practical experience in the entertainment industry. While Event Acoustics' core business is acoustic and audio consultancy, the exceptional combination of specialists, and the projects they work on, regularly leads to the development of unique solutions and products. Event Acoustics' expertise, knowledge and quality products are used worldwide in numerous buildings and by events and rental companies alike.*

**Development**  
Event Acoustics  
P: +31 30 241 2699  
M: info@eventacoustics.com

**Worldwide Sales**  
Ampco Flashlight Sales  
P: +31 30 241 4070  
M: sales@ampco-flashlight.nl

**MeTrao**  
by Event Acoustics

**For more information:**  
www.metrao.com

**Address**  
Proostwetering 50  
3543AH Utrecht The Netherlands