

USER MANUAL



"TeamUp+" Series All-in-one USB 2.0 Digital Audio Processor with Two Ceiling Microphones

PRODUCT OVERVIEW

Liberty's TU-USB-CEILINGMIC2 was designed for both recording and playback for interactive classroom and remote teaching environments. A single USB Microphone will cover up to 8 meters of acoustic radius, while two USB microphones can fully cover a 120m² classroom or conference room. The teacher or main presenter can speak anywhere within 2-8 meters from either omnidirectional microphone without affecting the microphone sound pickup. Each microphone uses a large, professional-grade acoustic transducer to capture a wide dynamic range and can pick up a rich, full-bodied sound. The unique enclosure design effectively suppressed large space reverberation and can capture clear undistorted audio.

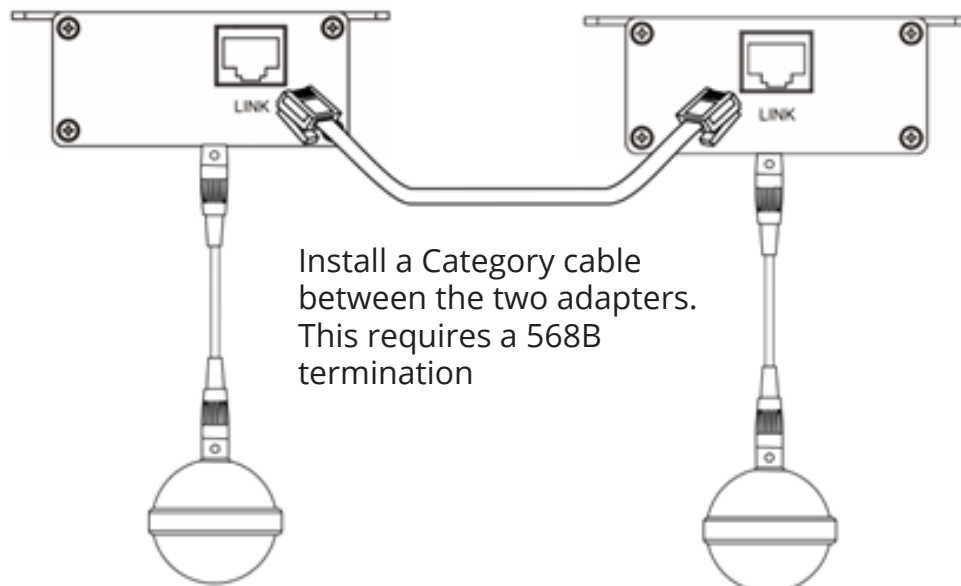
PACKAGE CONTENTS

- Audio Processor
- (2) Ball Microphones
- (3) Canon Cables
- 12V Power Adapter with US, US AND EU Power Adapters
- USB Cable

INSTALLING MICROPHONES

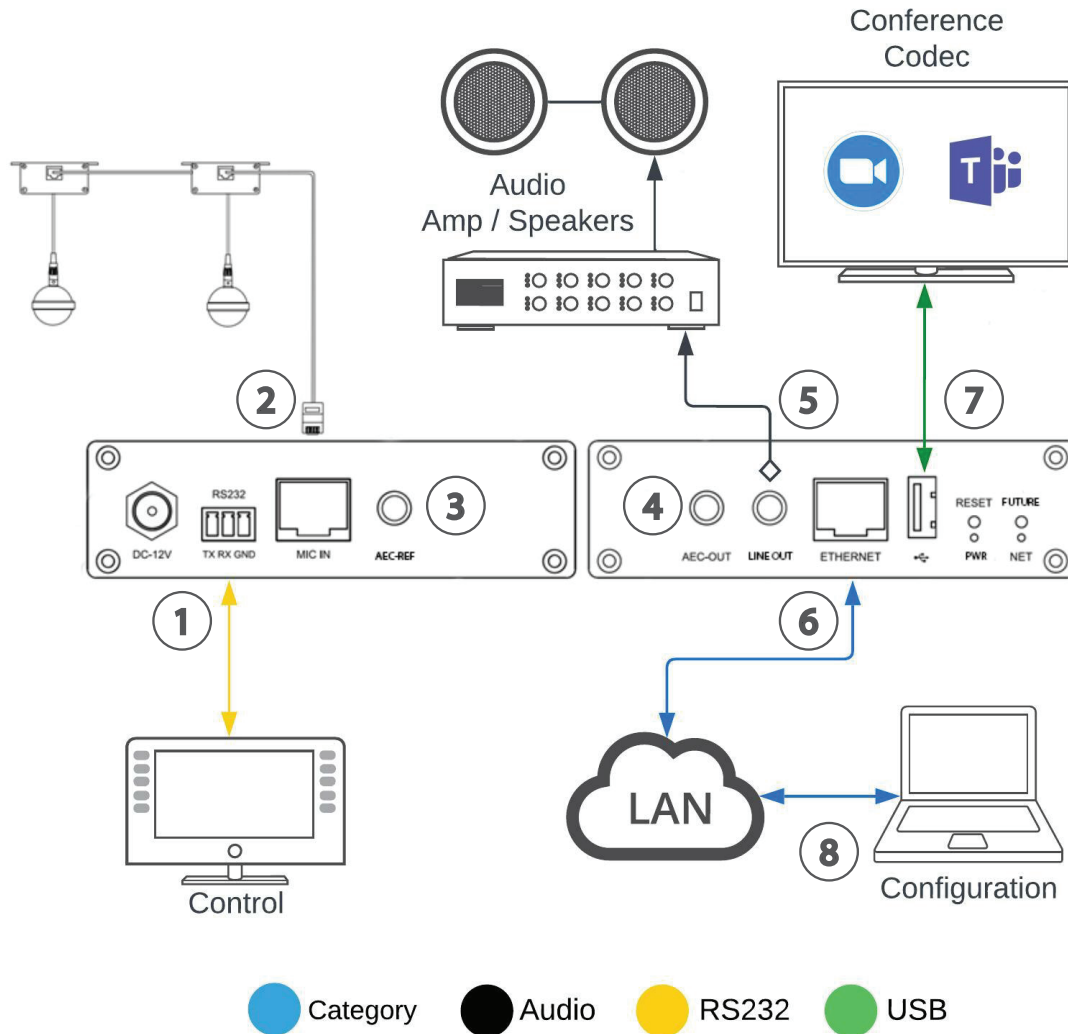


Install the canon cable between the ceiling adapters and the ball microphones. Install ceiling adapter into ceiling.



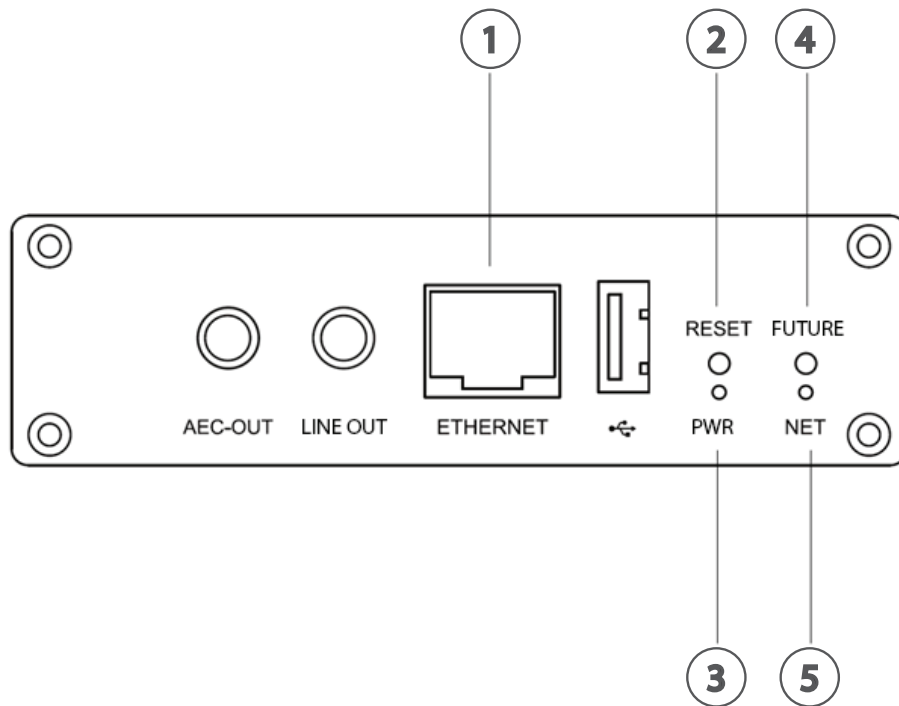
Install a Category cable between the two adapters. This requires a 568B termination

PROCESSOR CONNECTIONS



1. RS232 port, serial control interface for 3rd party control.
2. MIC IN port, balanced microphone input network interface for microphone system via Cat5e or better.
3. AEC-REF port, dedicated echo cancellation reference signal input.
4. AEC-OUT port, dedicated echo cancellation reference signal output.
5. LINE OUT, output interface for audio reinforcement
6. ETHERNET, interface to connect to LAN / computer for system configuration
7. USB 2.0 port, connect to computer for conference codecs.
8. Configuration PC, required to set up system functions

CONFIGURATION CONNECTION



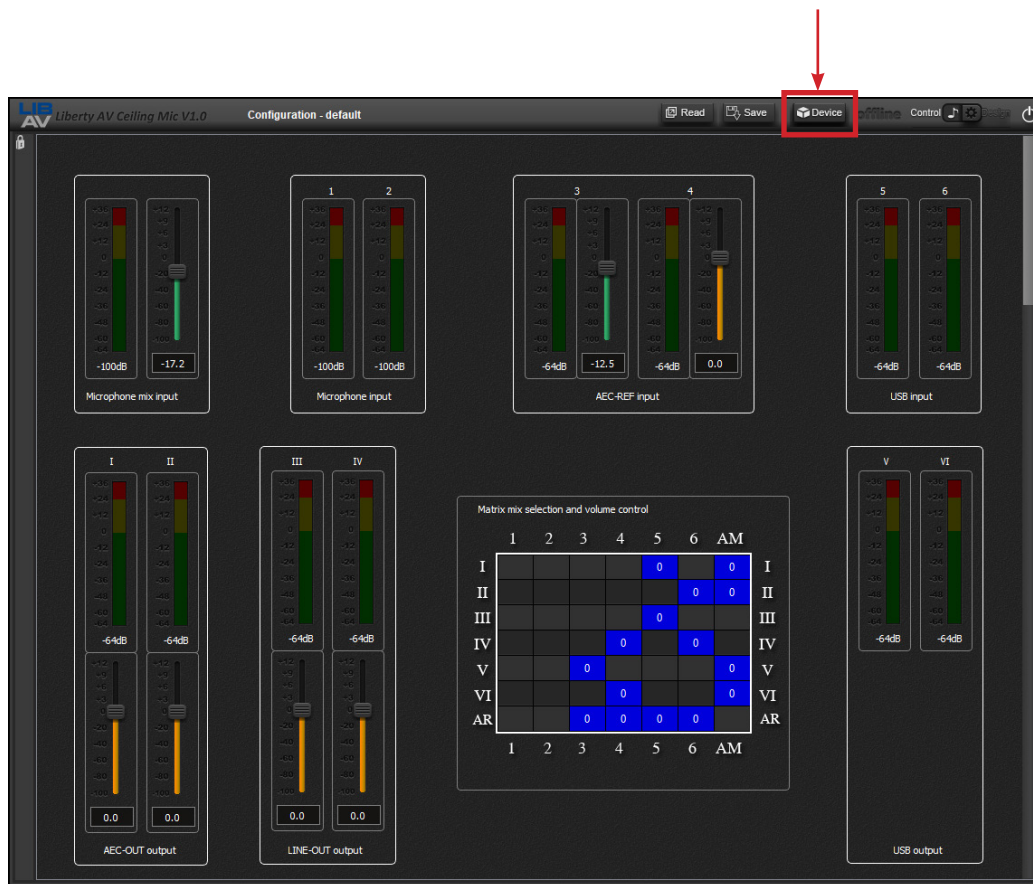
1. Connect configuration computer using Ethernet cable
 - Set IP address of configuration computer to 192.168.1.0/24 Network ID
 - Example: Configuration computer IP: 192.168.1.23 / Subnet 255.255.255.0
2. RESET, long press 3 seconds to restore factory settings
3. PWR LED, shows operation status, twinkle slowly means processor is working
4. For future use
5. NET LED, shows configuration connection status, light illuminates when connected

SOFTWARE CONNECTION

Download 'Liberty AV Ceiling Mic Setup V1.0' from the product page online for the TU-USB-CEILINGMIC2.

Run 'Liberty AV Ceiling Mic Setup V1.0' from the configuration PC connected to the system, the screen below will appear.

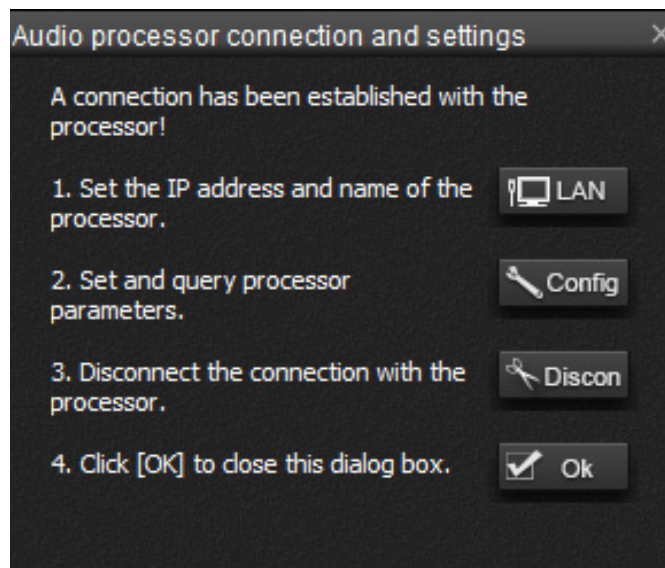
Click on *DEVICE*



Enter in the default IP address of the unit which is 192.168.1.100, then click *CONNECT*.



Once connected, the following menu appears.

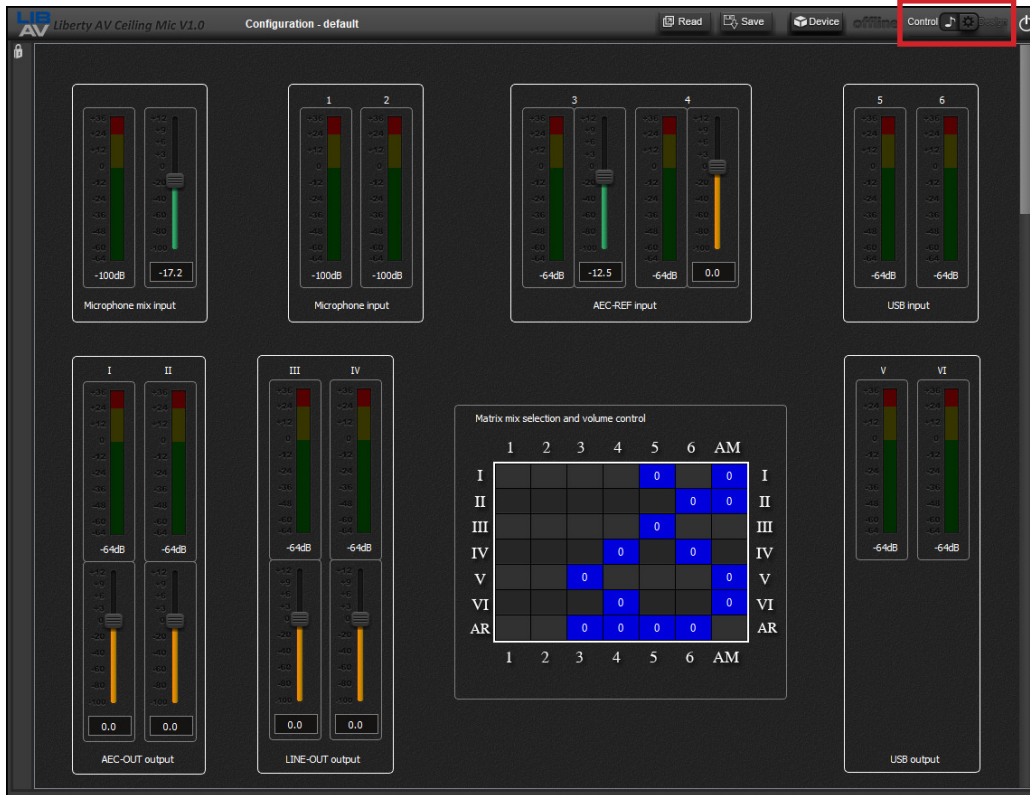


1. To set the processor to a static IP click LAN and enter in the desired IP settings
2. To upgrade firmware and reset the unit using the software click CONFIG
3. To disconnect with the processor click DISCONNECT
4. Click OK to close the dialog box

SOFTWARE SETTINGS

Click the *Control/Design* toggle to access the advance audio settings options.

Click on *Control/Design*

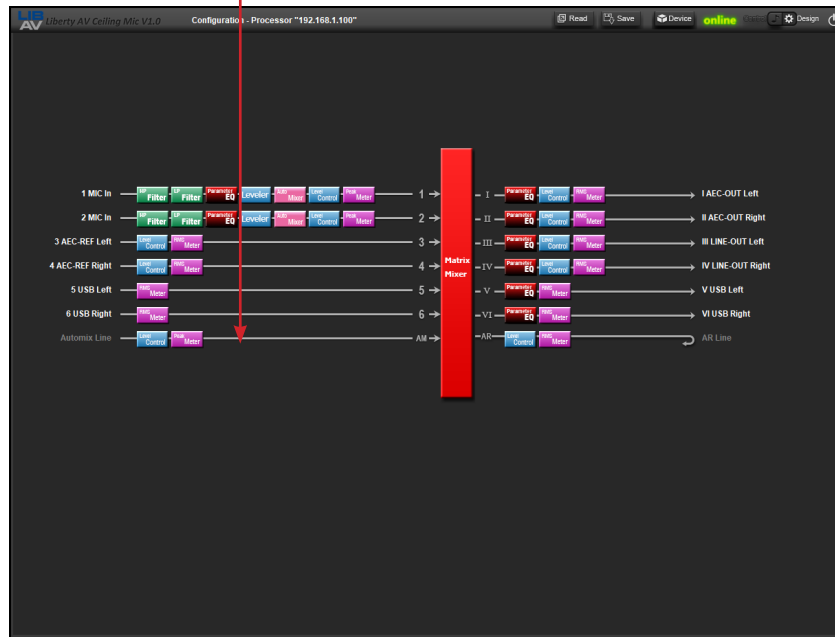


The control screen by default shows all the current input and output level settings and provides a matrix routing option.

AEC

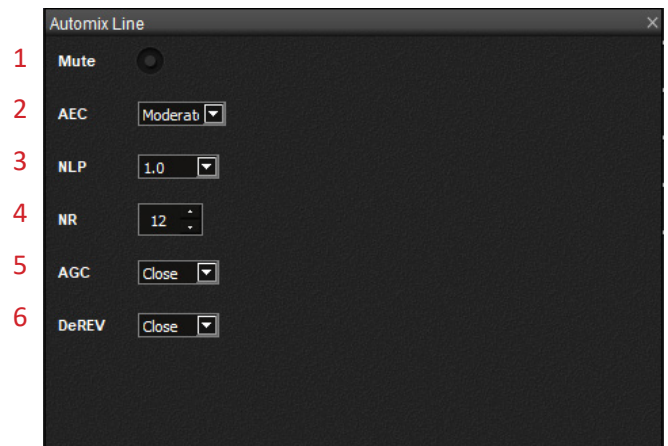
The follow screen appears, double click on the *Automix Line* to adjust AEC settings.

Double Click on *Control/Design*



The follow screen appears, below are explanations of the AEC settings, choose the desired settings from the drop down options in the menu.

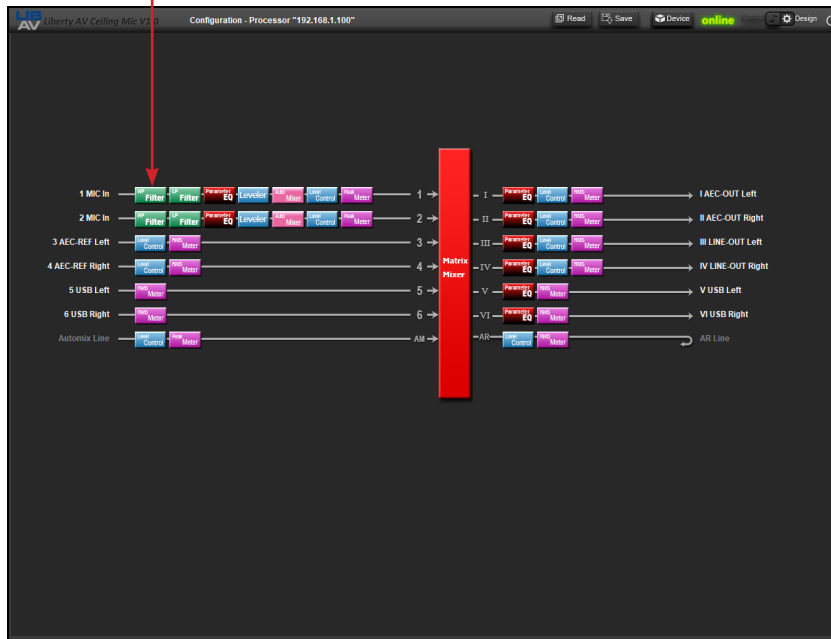
1. MUTE - Automix Line mute toggle
2. AEC - Auto Echo Cancellation settings
3. NLP - Non linear processing settings
4. NR - Noise Reductions settings
5. AGC - Automatic gain control settings
- 6 - DeREV - Dereverberation Settings



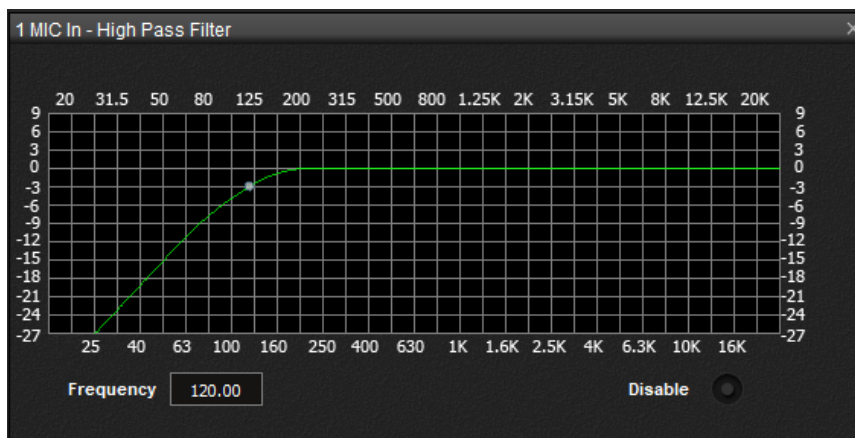
HIGH PASS FILTER

Navigate to the design page, double click on the *HP Filter* to adjust high pass filter settings.

Double Click on *HP Filter*



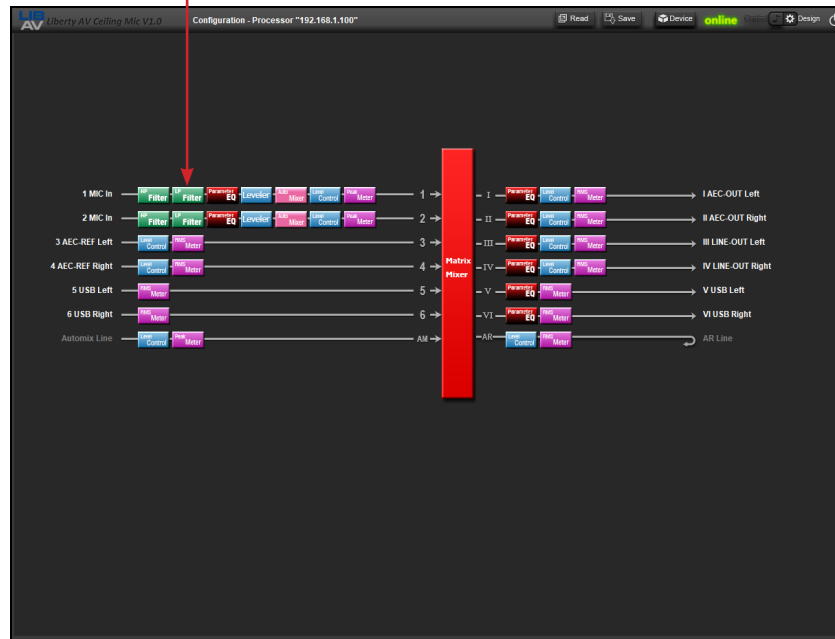
The following screen appears, adjust filter as needed by clicking and dragging the graph or enter in the frequency.



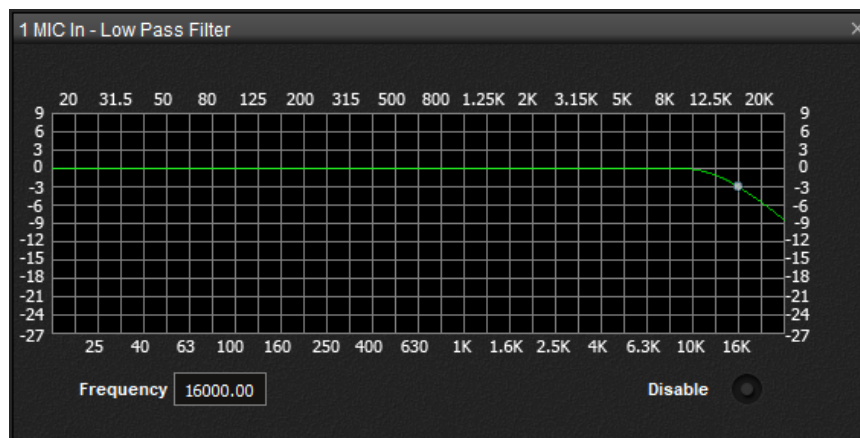
LOW PASS FILTER

Navigate to the design page, double click on the *LP Filter* to adjust low pass filter settings.

Double Click on *LP Filter*



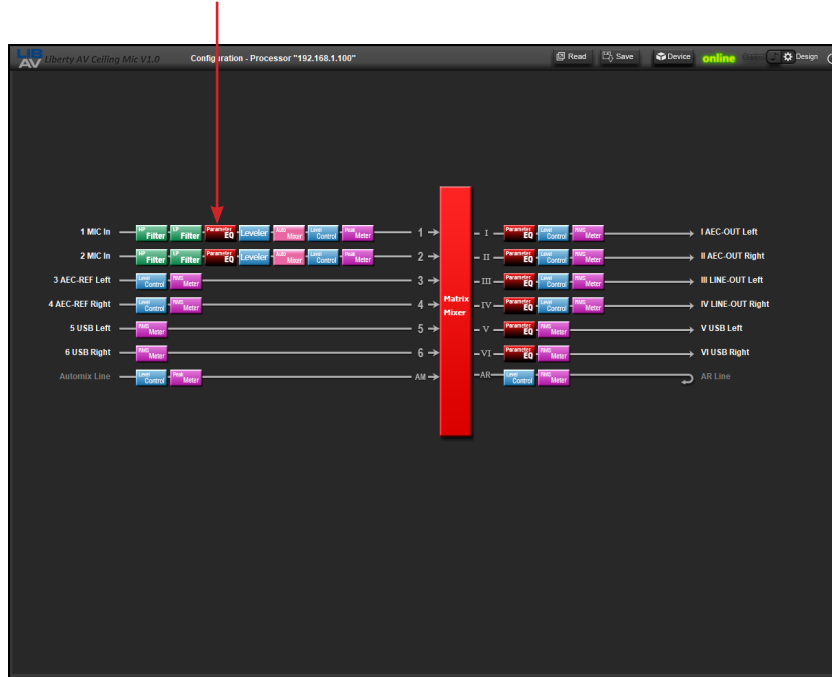
The following screen appears, adjust filter as needed by clicking and dragging the graph or enter in the frequency.



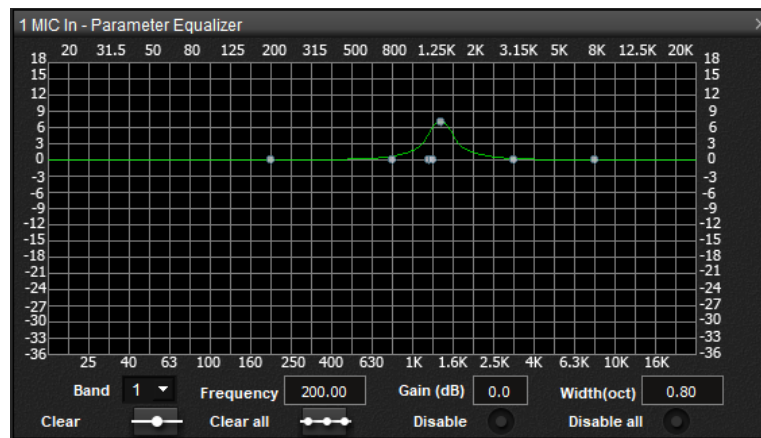
PARAMETRIC EQ

Navigate to the design page, double click on the *Parametric EQ* to adjust the equalization of the signal.

Double Click on *Parametric EQ*



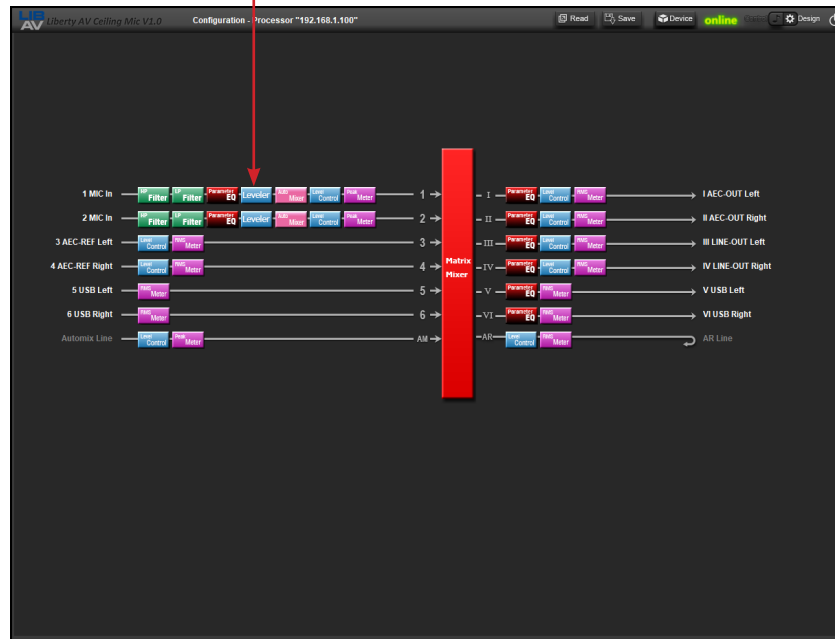
The following screen appears, adjust EQ settings as needed.



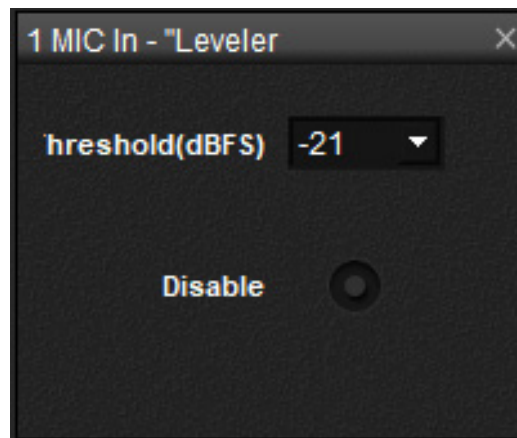
LEVELER

Navigate to the design page, double click on the *Leveler* to adjust the compression threshold of the signal, by default the compression ratio is 10:1.

Double Click on *Leveler*



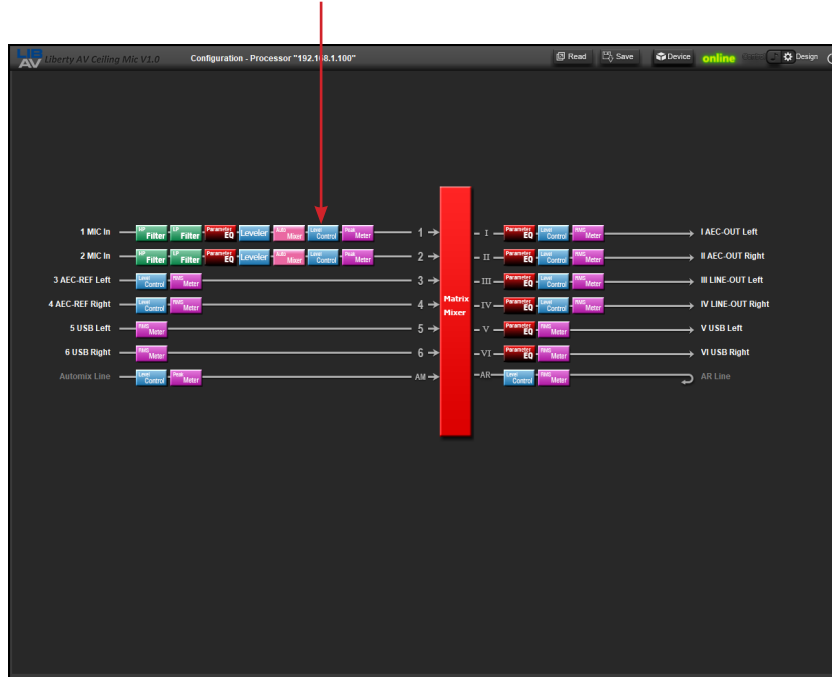
The following screen appears, adjust the compression threshold settings as needed.



LEVEL CONTROL

Navigate to the design page, double click on the *Level Control* to view and adjust the level of the signal.

Double Click on *Level Control*



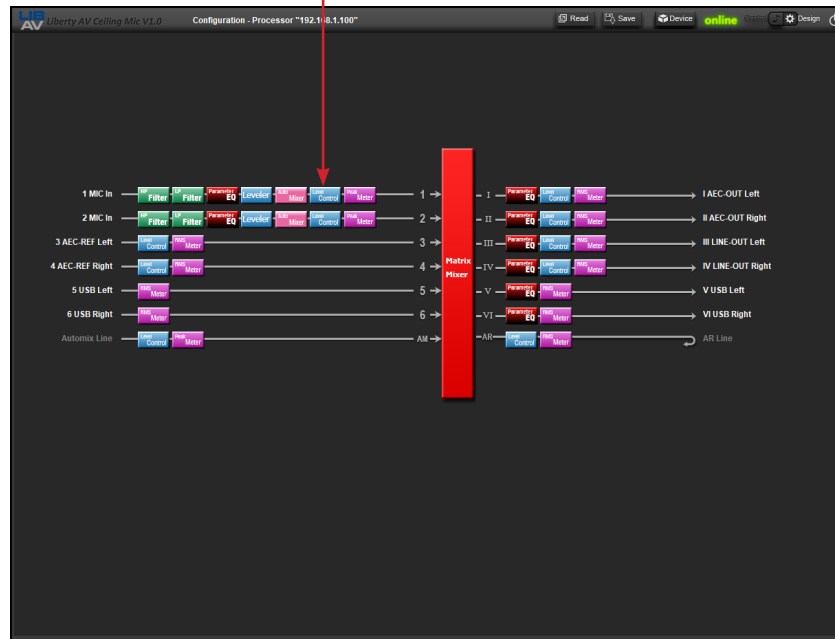
The following meter screen appears.



PEAK METER

Navigate to the design page, double click on the *Peak Meter* to view the level of the signal.

Double Click on *Peak Meter*



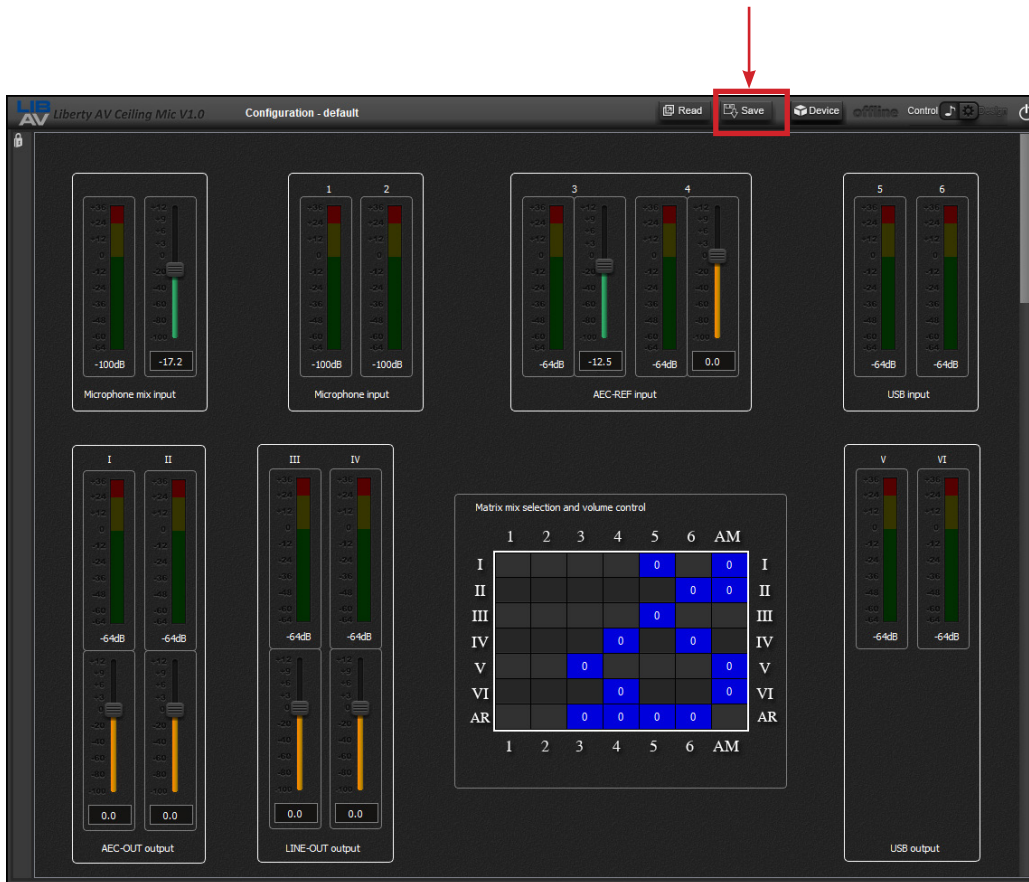
The following meter screen appears.



SAVE CONFIGURATION

Click *Save* to save the current configuration file on your local PC.

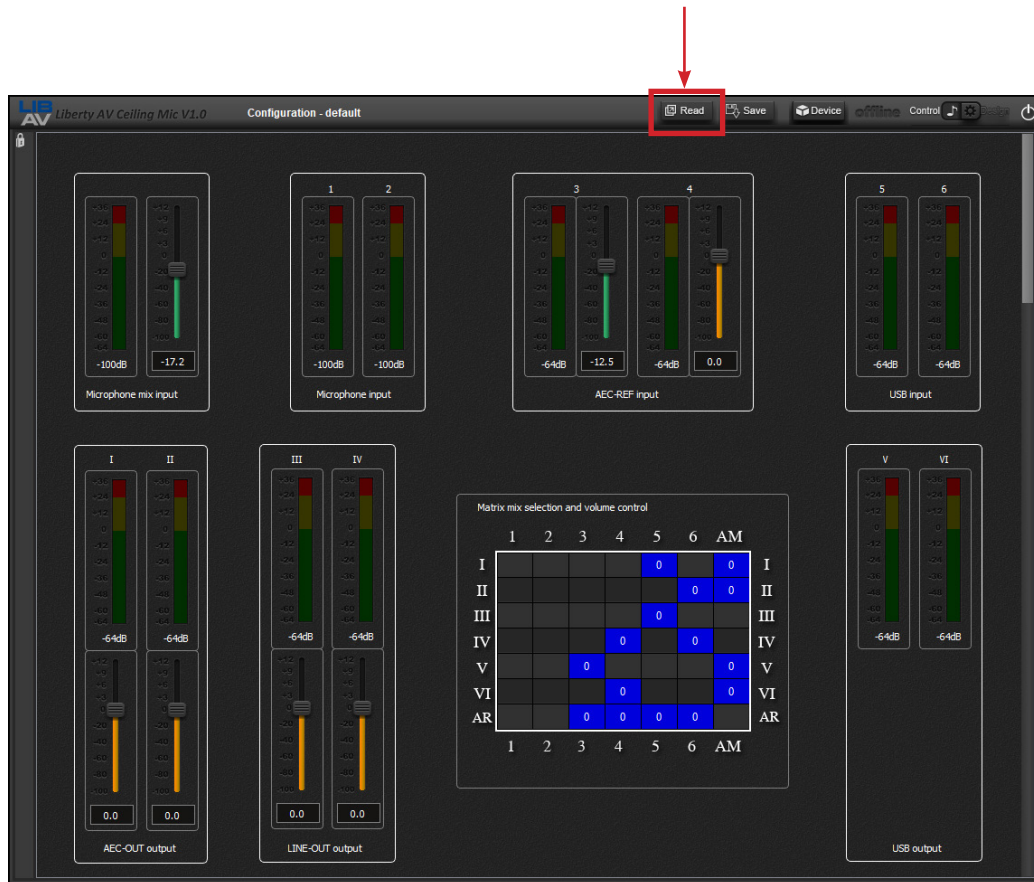
Click *Save*



LOAD CONFIGURATION

Click *Load* to load a configuration file from your local PC.

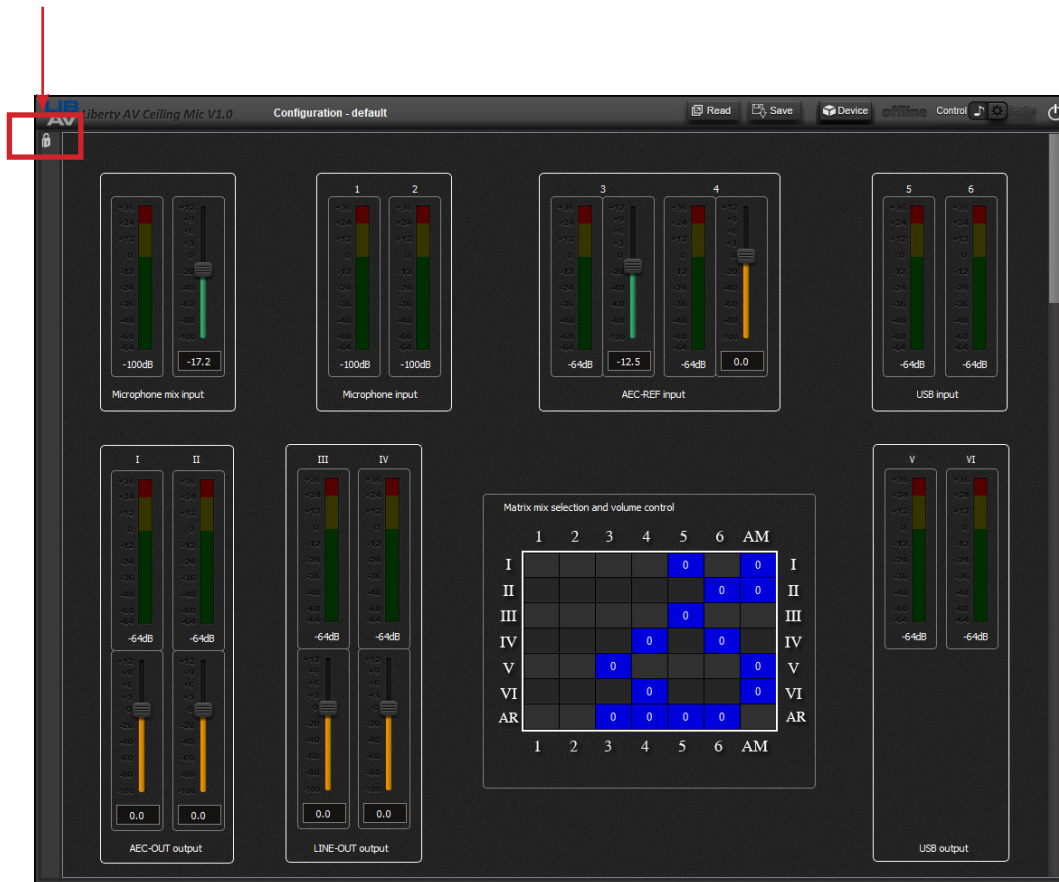
Click *Load*



CUSTOMIZE CONTROL SCREEN UI

Click the *LOCK* icon to adjust the GUI as desired, click again to the lock the GUI in place.

Click *Lock Icon*



TECHNICAL SPECIFICATIONS

PROCESSOR

Specification	
Frequency Response (20Hz~20kHz @ +4dBu):	
Mic. Channel	+0/-2dB
Line Channel	+0/-0.5dB
THD +N (1kHz @ +4dBu):	
Mic. Channel	< 0.009%
Line Channel	< 0.007%
Equivalent Noise Level	< -84dBu(20Hz~20kHz@22dB)
Dynamic Range	> 105dB(20Hz~20kHz@0dB)
Max Input Level:	
Mic. Channel	-2dBu
Line Channel	20dBu
Max Output Level	20dBu
Max Gain	
Mic. Channel	50dB
Line Channel	0dB
Input Impedance	
Mic. Channel	2.2kΩ
Line Channel	20kΩ
Output Impedance	400Ω
A/D-D/A Converter	24-bit
Phantom Power	DC 48V

MICROPHONE

Specification	
Sensor	Φ24 back electric condenser microphone
Characteristic Circuit	JFET impedance transformation; Electron equilibrium
Directional	Omnidirection
Frequency Range	50Hz-20kHz
Sensitivity	-44±3dB (0dB=1V/Pa@1kHz)
Output Impedance	2.2kΩ
Mix. Load Impedance	1kΩ
SNR	75dB(S:(f=1kHz@1Pa) N:(A-Weighted curve))
Max SPL	115dB(f=1kHz, THD<1%)
Power	Support 48V phantom power
Dynamic Range	104dB(20Hz-20kHz@2.5kΩ)
Max Output Level	-50dBu (20Hz-20kHz, THD<1%@2.5kΩ)
Working/Storage Temperature	0-45°C/-20-70°C(32 - 113 °F/-4 to 158 °F)
Working/Storage Humidity	10%-90% (non-Condensing)
Output Connector/Cable	Min XLR-3male/ / Shielded twistd pair cable
Color	Matt Black
Net Weight	43g
Size	Φ 53×54mm

Thank you for your purchase.

For technical support please call our
toll-free number at 800-530-8998
or email us at supportlibav@libav.com

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www.libav.com 800-530-8998