What You Will Need

- Laptop & Ethernet cable to connect to the Lencore System (Use a long cable to get you out of the closet)
- Sound Pressure Level (dB) Measuring Equipment
- Hardware Meter
- Software App for iOS, Android with 1/3rd Octave option
- Tablet or Laptop software with 1/3rd Octave option
- Calibrated Omni Directional Microphone
- Familiarity with System Manager - Lencore's user interface
- Web Browser-No software downloads required to access System Manager

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- **Important! All hardware & software tools must have the** "A Weighting" **option.**
- **Know your tools! Lencore cannot support your choice of hardware / software.**

Prepping for Your Site Visit

- Review Site Drawings - Bring printed copies to the site for your notations and Masking Zone references
- Create a "map" or "legend" of potential Masking Zones
- Build Masking Zone list from OP's and OP channels. Write them down on your wiring diagram

| EXAMPLE ZONE MAP	
Zone Name	**OP Channel Assignments**
Open Area	1-All 2-All 3-AB
Closed Offices	3-CD 4-All 5-All
Hallways	6-All 7-All 8-AB

Masking
Attenuation

58.5

Arriving on Site

- Confirm the Lencore system is powered on
- Log into System Manager, create a masking zone with all OP channels and raise the **masking attenuation slider** up loud so you can hear it clearly.
- Walk the space & confirm masking is on throughout
  - ❖ Notate any issues: *Minor issues such as a speaker or channel not masking should not prevent tuning of the working areas.*
- After completing your walkthrough return to System Manager, set the Masking Attenuation to 58.5
- Mute the Zone

Up

Down

Mute

Measuring & Recording Ambient Noise Levels - Ensure you are using "A Weighting"

- With the sound masking muted proceed to measure ambient noise levels
- Hold your SPL measuring device approximately 4' off the floor.
    - ❖ Do not point the device straight up, position it at approximately 45 degrees.
- Walk the space and take measurements of ambient noise levels
    - ❖ Record these levels on the wiring diagram
    - ❖ Open Areas measure in at least 4 locations
    - ❖ Closed Offices measure in 1 location or 2 if a large office (more than one speaker)
    - ❖ Hallways to be measured at equal intervals along the route
    - ❖ Conference Rooms measure in at least 2 locations
- UNMUTE THE ZONE YOU CREATED
- DELETE THE ZONE
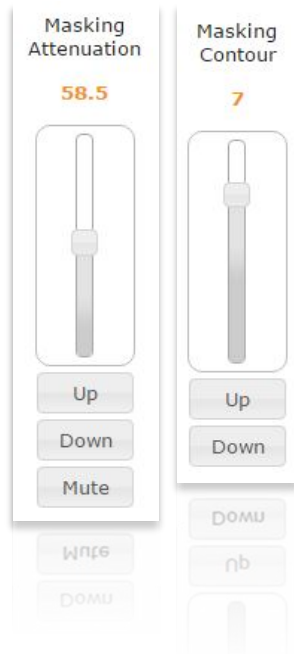
How do I adjust the Sound Masking using System Manager?

Masking Attenuation – This slider determines how loud the masking is. (dB's)
The number on the slider is not referring to dB levels, *it's just a number*.

Masking Contour – The Contour slider adjusts the Lencore curve. Moving the contour slider UP shifts the Lencore curve towards a more White Noise dominant curve, hissy. Moving the contour slider down moves the Lencore curve to a Pink Noise dominant curve, warmer. It is critical to "balance" these sources to raise the level of speech unintelligibility while the masking remains comfortable to work under.

Too much White Noise is highly effective and HIGHLY UNCOMFORTABLE - like a guitar amplifier on 11. Too much Pink Noise is warm and comfortable like your favorite sweater but - provides no masking. Measure and reach your target levels while also using your ears. With enough trial &error along with experience your understanding of what a properly tuned space sounds like will begin to develop.

Create Your First Zone

When available start with a large Open area. Using your "Zone Map" create the Zone populating it with the assigned Operating Platforms (OP's) and channels. No Open Areas? Create a Zone of your choice.

- Once your zone has been created begin setting your levels.
    - ❖ **48dB in the Open Area is your target masking level**
    - ❖ Use both Masking Attenuation & Contour controls to achieve the best results
    - ❖ Tune & Measure in several locations and notate the dB levels on your wiring diagram - next to your background noise level measurements.
- Next, refer to your "zone map" add all remaining Open Area channels to the zone.
    - ❖ **You may wish to keep floors separate and create individual zone types for each floor.**
    - ❖ Move the Zone Masking Attenuation Slider up one click then back down one click.
    - ❖ Move the Zone Masking Contour up one click then back down one click.
    - ❖ Your Open Area Channels are now all set to the same masking and contour levels.
    - ❖ Measure all newly added areas in several locations to ensure uniformity of masking levels throughout the Open Area.
    - ❖ Notate the levels on your wiring diagram for newly added areas

| Target decibel (dB) levels	
Open Areas	48dB
Closed Offices	42-45dB
Hallways/Transitional Spaces	Levels will vary

If you encounter a channel(s) in the zone that requires adjusting it's best to pull them out of the zone and tune them separately, this is not unusual.

TIP! Whichever control you touch last is what the channels output. Any channel can be adjusted with the zone or the OP channel controls. If you adjust the individual channel then go back and make a change to the zone, the channel will follow the zone control adjustment. And the converse is also true. *Whichever control you touch last sets the channels output.*

TIP: Regarding closed offices, hallways and other "transitional" spaces; After tuning a large Open Area (if available) you will move to offices, hallways, etc. When you walk through these spaces (or any area with masking) you do not want "hot" or "cold" spots. When you walk in/out of an office for example, the masking should not be noticed. *Wherever there is masking, transitions from space to space will be seamless and not noticed when properly tuned.*

What's Next?
Once you have completed tuning & balancing of your first Open Area (or other space), follow the process for the remaining spaces. You know, "rinse & repeat".

LENCORE
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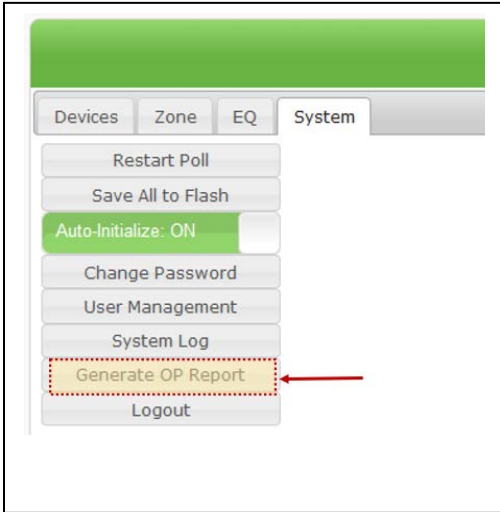
Generate Your OP Report
Generating the OP report creates a .csv file containing the OP settings and is an important record of the tuning. The report is filed with your closeout documents and is your responsibility to send this file to Lencore. Generating the OP Report will be the last step prior to logging out. We also suggest after downloading/saving the file you may want to copy it to a thumb drive, email it and/or send it to the cloud for backup cause' you never know. ***Do not bypass this important final step***.

Stay Tuned, Stay Balanced
Now that you have had a chance to read through this guide and review the material, you will be well on your way to understanding the process. Finally, I would suggest that if you have an opportunity to "shadow" or accompany individuals with the required expertise under their belt, the quicker you will too. Good luck and happy tuning!