



Lyric3 Programming Features

Introduction

- To help your patients experience the most optimal Lyric3 fitting, our clinical training staff has been working with providers around the country to understand their experiences and collect fine-tuning best practices.
- This best practice tool reflects our learnings and is a handy resource that you can keep in your Lyric consultation room for easy reference during patient fitting and follow-up appointments.
- Contact your Clinical Trainer or Phonak Representative with any questions about fitting Lyric3.

Lyric3 Fitting Parameter Overview

Operation

Available fitting parameters

VOLUME

Softer

-2 ▼



Louder

+2 ▼

OUTPUT COMPRESSION CONTROL

High output



LOW FREQUENCY CUT

600 Hz



SLOPE CONTROL

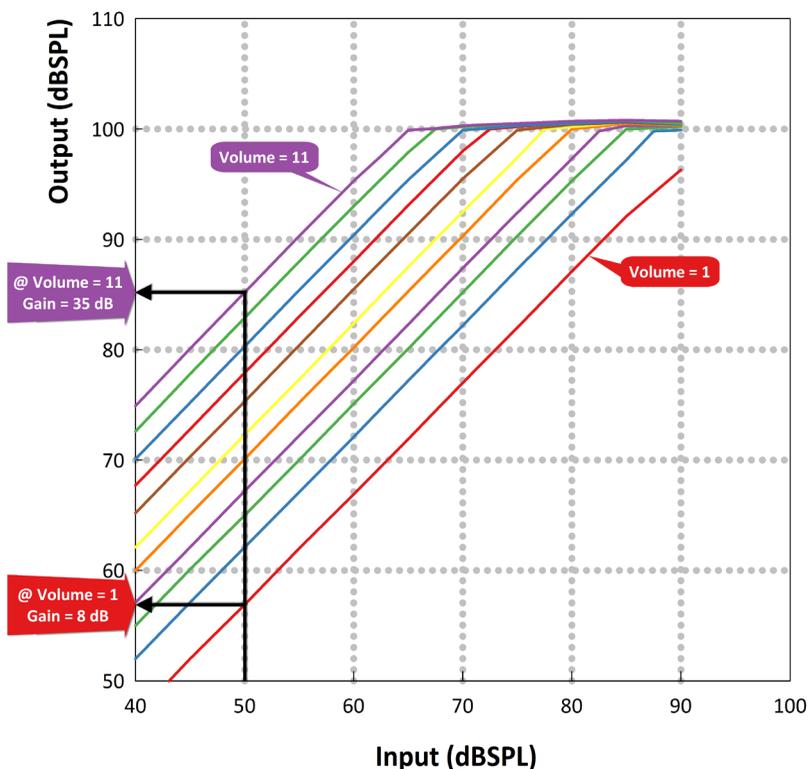
Off



Volume

Function: Gain adjustment

Purpose: Audibility for soft/average sounds



Measured in 0.4cc coupler with a 2000 Hz pure tone input.
Lyric3 settings: OCC = Max, LFC = 200 Hz, SC = Off

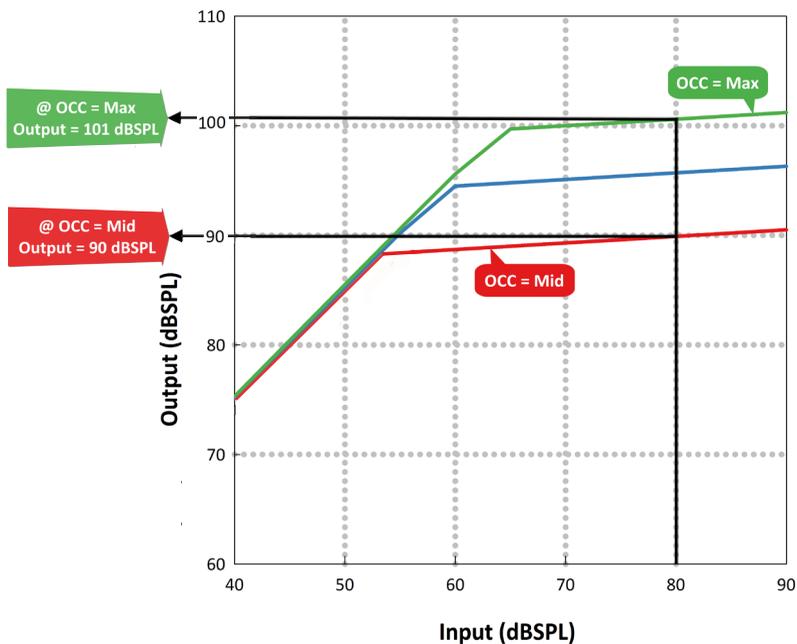
Reminders:

1. Lyric3 provides linear amplification with output compression limiting (OCL). Adjusting the volume changes the gain, but does not change the compression ratio.
2. First-fit is based on the device placement 4 mm from the eardrum. It may be necessary to deviate from the first-fit setting if this placement is not achieved or according to your patient's preference.
3. Greater hearing losses will require higher volume settings in order to maintain audibility.

Output Compression Control (OCC)

Function: Adjust maximum output

Purpose: Provide headroom for average/loud sounds



Measured in 0.4cc coupler with a 2000 Hz pure tone input. Lyric3 settings: Volume = 11, LFC = 200 Hz, SC = Off

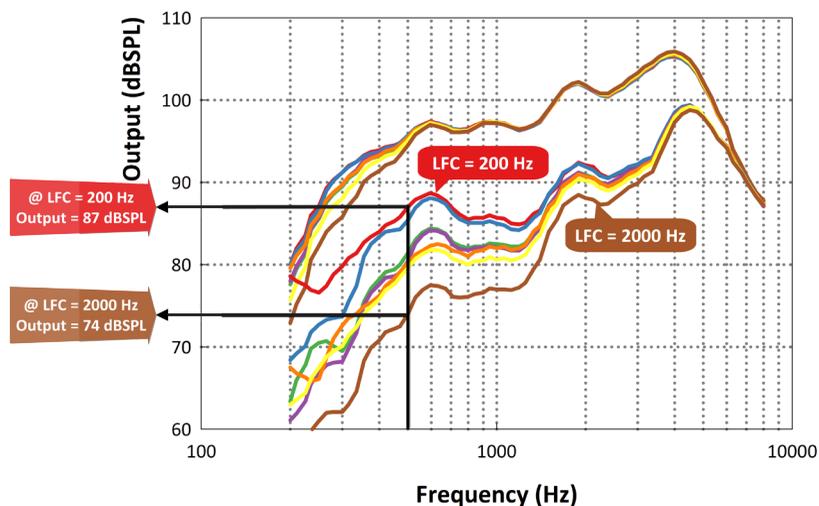
Reminders:

1. Lyric3 provides linear amplification with output compression limiting (OCL). Adjusting OCC changes the maximum output, but does not change the compression ratio.
2. Output Compression Control setting will not affect gain for soft sounds, but rather changes the output for loud sounds. At high volume settings, OCC also affects the output for average sounds.
3. As OCC increases from mid to high to max, the maximum output also increases.
4. Greater hearing losses will require higher OCC settings in order to utilize the upper end of the residual dynamic range.

Low Frequency Cut (LFC)

Function: Decrease gain for soft and average sounds below the specified cut-off frequency

Purpose: Address complaints associated with amplification of softer, low frequency sounds.



Measured in 0.4cc coupler with a 65 dB SPL speech input.
Lyric3 settings: Volume = 11, OCC = Max, SC = Off

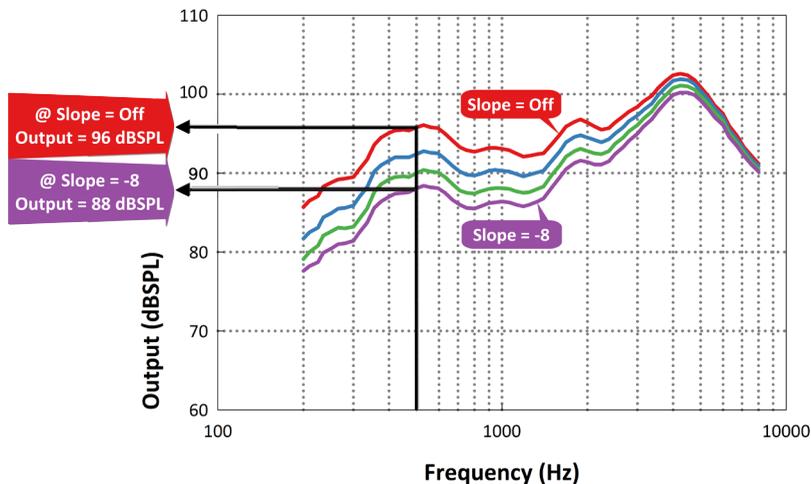
Reminders:

1. LFC affects soft and average low frequency sounds only.
2. The effect of LFC can be similar to that of expansion which is making soft low frequency sounds such as fans and machine hums less audible. As you increase LFC (move towards 2000 Hz) the gain for soft and average sounds below the cut-off frequency decrease relative to the gain for loud sounds.

Slope Control (SC)

Function: Decrease gain for soft, average and loud low frequency sounds

Purpose: Address complaints associated with low frequency amplification



Measured in 0.4cc coupler with a 65 dB SPL speech input.
Lyric3 settings: Volume = 11, OCC = Max, LFC = 200 Hz

Reminders:

1. Slope Control is the only parameter that adjusts the amount of gain for loud low frequency sounds, like one's own voice, traffic noise, and loud restaurants.
2. If moving away from OFF, you may need to also increase Volume by 1 step to help compensate for the decrease in mid and high frequency gain.
3. More steeply sloping hearing losses will require higher slope control settings to avoid over-amplifying low frequency sounds.

Optimizing Your Workflow

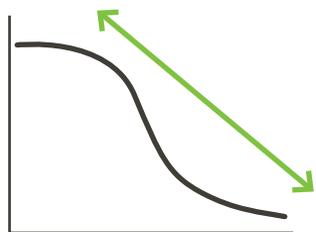
Lyric3 Fitting Follows Four Steps

This next section outlines a recommended fitting workflow that you can use to navigate through the different Lyric3 fitting parameters. This workflow can be used for both new Lyric3 fittings or to help make adjustments for your current Lyric3 patients.

1

Slope Control

Based on audiogram

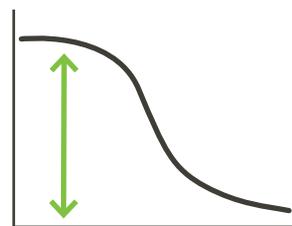


Determining
slope of response

2

Volume

Based on speech in quiet

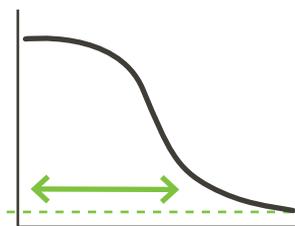


Volume

3

Output Compression Control

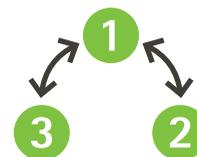
Based on loud noise



4

Fine Tuning

Clarity and quality
in quiet



Loud noise
acceptable

Clarity
in noise

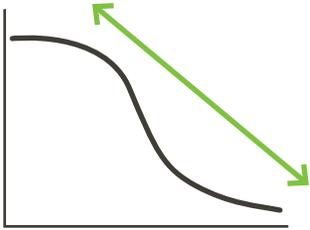
The four steps help you move through the fitting parameters in an organized manner while using both the audiogram and your patient's listening preference in quiet and in noise. By introducing loud noise while fitting Lyric3, you can increase the likelihood that your patient will be satisfied with the quality of sound outside the fitting room, in the real world.

Step 1: Slope Control (SC)

1

Slope Control

Based on audiogram



Determining
slope of response

First, set Slope Control according to the hearing loss slope profile:

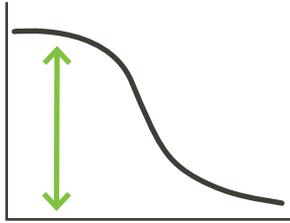
- Flat hearing loss = Off
- Mildly sloping hearing loss = -3 dB
- Steeply sloping hearing loss = -6 dB

Step 2: Volume

2

Volume

Based on speech in quiet



Volume

Second, set the Volume for a quiet environment:

- Determine if the set volume is acceptable for normal conversational speech.
- Adjust volume level up or down according to patient preference.

Remember

This step is to help determine overall volume in quiet only.

Stimuli Recommendation

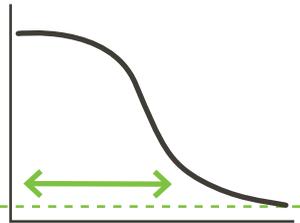
Speech passage or
PhonakTarget Media File
"Dialog in quiet."

Step 3: Output Compression Control (OCC)

3

Output Compression Control

Based on loud noise



The third step is to determine the preference of sound quality and volume of loud sounds:

- With loud ambient noise in the background try mid, high and max Output Compression Control settings and have your patient determine which setting provides better quality.

Stimuli Recommendation

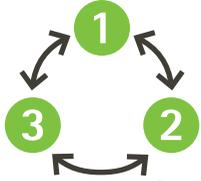
PhonakTarget Media File "Loud Party Noise" or "Restaurant Ambience, Version 2" by Finnolia Sound Effects, available at iTunes.

Step 4: Fine-tuning Check for Quiet, Loud, and Noisy Environments

4

Fine Tuning

Clarity and quality
in quiet



Loud noise
acceptable

Clarity
in noise

The fourth step can be multi-factorial and involve different fitting parameters. The goal is to determine the balance of quality and clarity for both quiet and loud environments.

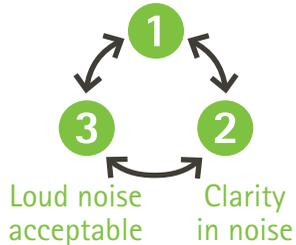
- Clarity in quiet and noise is often due to Slope Control, Volume, and Low Frequency Cut settings.
- Quality of loud ambient noise is often due to Output Compression Control and Volume settings.

Step 4: Fine-tuning Check for Quiet, Loud, and Noisy Environments (continued)

4

Fine Tuning

Clarity and quality
in quiet



- 1 First, determine that the clarity and quality of normal conversational speech is still acceptable in quiet. If adjustments are needed, look to Volume setting.
- 2 Second, determine that the clarity of speech in background noise is acceptable.
 - Try different Slope Control settings (i.e., Off and -3 dB) with the same background noise and ask the patient to indicate the setting at which speech is more clear.
 - Look to Low Frequency Cut for reports based on bass and treble and adjust accordingly (i.e., too much bass, increase LFC).
- 3 Third, verify that the quality of loud noise is still acceptable. Look to Output Compression Control if it is not acceptable (i.e., loud noise is not clear or loud enough, increase from Mid to High or Max).

Slope Control

Fitting Parameter Interactions

Slope Control & Volume

- SC attenuates low and mid frequencies more than high frequencies; therefore, to emphasize the high frequencies with SC, a volume increase may be needed in addition to moving the setting away from the "Off" position (-3 dB).
- **Application:** For patients who may need more low and mid frequency gain or are experiencing insertion loss, move the SC towards "Off." If this introduces feedback, you can try decreasing the Volume by one step.

Slope Control & Low Frequency Cut (LFC)

- Be cautious of higher LFC (i.e., 1100 Hz) with more SC (i.e., -6 dB) as it may inadvertently not provide your patient with enough low to mid frequency gain to help with the insertion loss of the Lyric device.
- **Application:** When looking to troubleshoot for patients who may need less gain for loud low frequency sounds (i.e., restaurant ambient noise), SC should be used instead of LFC as SC is the only parameter that can isolate a reduction in gain for loud low frequency sounds.

Output Compression Control Fitting Parameter Interactions

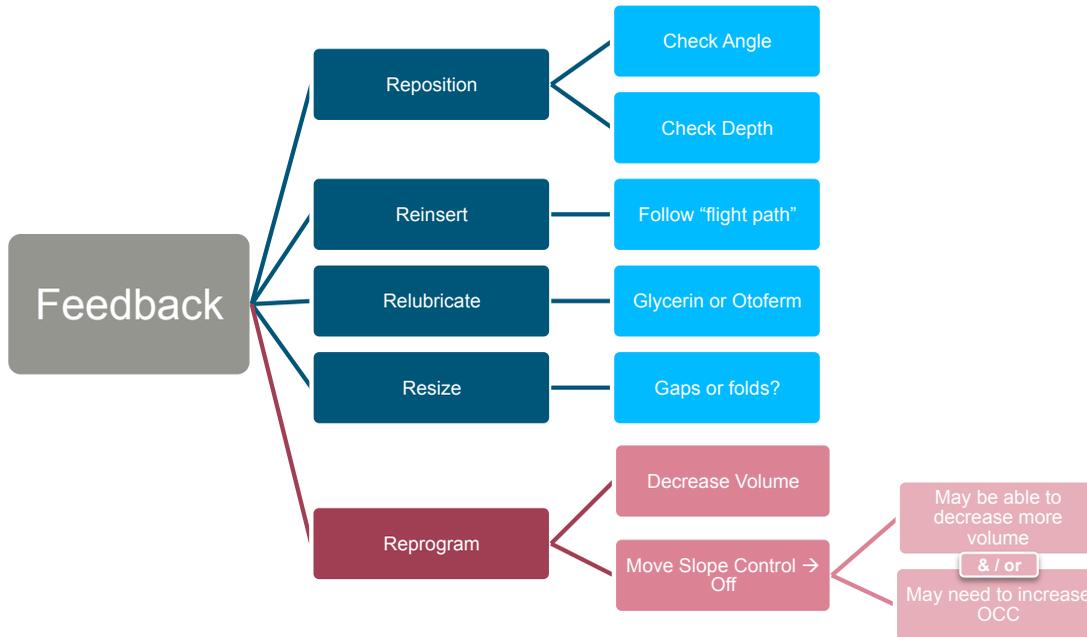
Compression Control & Volume

- Volume is the only parameter that affects audibility of soft sounds (50 dBSPL). OCC is the only parameter that affects the output for loud sounds (80 dBSPL). However, average sounds (65 dBSPL) are affected by both volume and OCC. For example, gain for average sounds can be increased by increasing volume, OCC, or both.
- **Application:** For patients with more hearing loss, they will most likely require a higher Volume level for audibility and should also have "High/Max" OCC to make the device linear over a wider range of input levels.

Lyric3 Flow Chart

Suggested Lyric Workflow

Feedback



Blue = Device Placement Suggestions

Maroon = Programming Suggestions

Reminders:

1. There may be the occurrence of feedback when first fitting Lyric3.
2. The flowchart is separated by what you can do with the device placement (colored in blue) and what can be done with programming (colored in maroon).
3. It is recommended to start with the suggestions from the top and make your way down, or in other words, try to work with device placement prior to reprogramming.

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