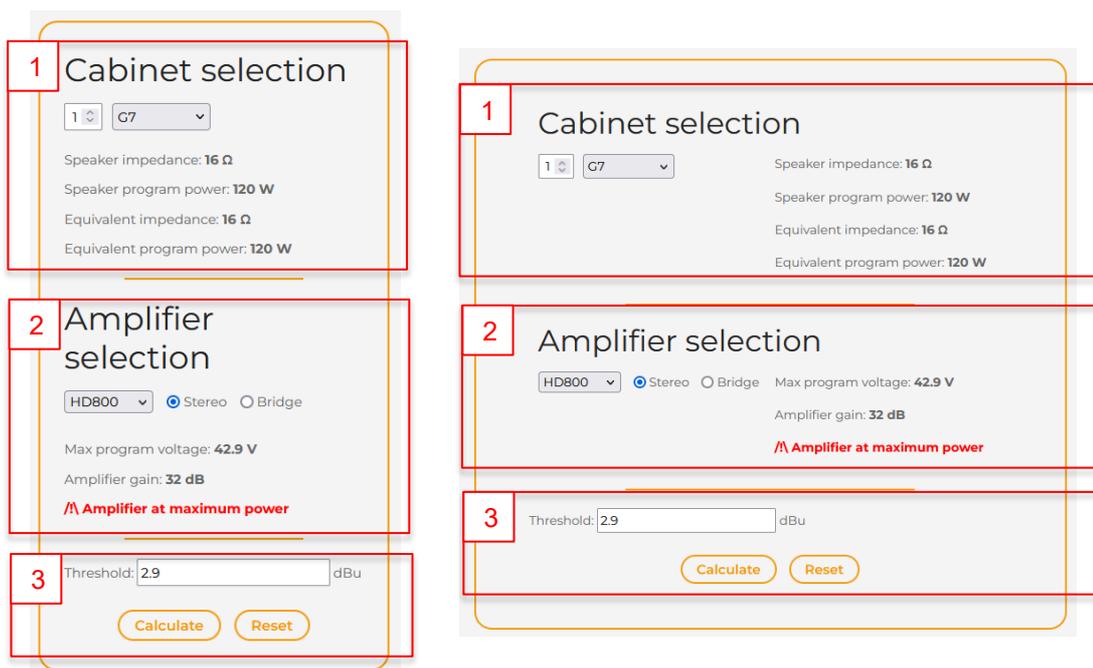


English

## LimCal user guide

This version of LimCal built for web browser, let us to compute the limiter's threshold from a smartphone or a PC with internet connection. The threshold result is only valid for speakers interconnected using parallel connection. I.e. the positive borne of the speaker should be connected to the positive core of cables. Likewise with the negative speaker borne to the negative cable core but never cross-connecting positive with negative.

LimCal has three sections:



The image shows two side-by-side screenshots of the LimCal web interface. Red boxes highlight three sections in both: 1. Cabinet selection, 2. Amplifier selection, and 3. Threshold. The left screenshot shows the 'Cabinet selection' section with a dropdown for '1' and 'G7', and 'Speaker impedance: 16 Ω', 'Speaker program power: 120 W', 'Equivalent impedance: 16 Ω', and 'Equivalent program power: 120 W'. The 'Amplifier selection' section shows 'HD800' selected, 'Stereo' selected, 'Max program voltage: 42.9 V', and 'Amplifier gain: 32 dB' with a warning 'Amplifier at maximum power'. The 'Threshold' section shows a value of '2.9' dBu and 'Calculate' and 'Reset' buttons. The right screenshot shows the same sections but with 'Max program voltage: 42.9 V', 'Amplifier gain: 32 dB', and a warning 'Amplifier at maximum power'.

### 1. Cabinet selection

In this section the number of speakers for a single channel of the amplifier is selected. A form is enabled to select our speaker mode and its impedance if necessary. For this selection LimCal shows the speaker power and impedance. Also it shows the total impedance of the system at the input channel of the amplifier.



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## 2. Amplifier selection

Once the model of amplifier is selected, we should check the operation mode we have it configured:

- Stereo: The mode selection switch is set at "Stereo mode". In this mode amplifier channels A and B works split, like they were two different amplifiers.
- Bridge: The mode selection switch is set at "Bridge mode". In this mode both of the amplifier channels work together like a single amplifier.

For the speaker and amplifier configuration selected, LimCal shows the maximum voltage the amplifier could provide. Also the amplifier gain. If the cabinets power exceed the maximum the amplifier could provide, a pop-up informing of this appears.

## 3. Threshold calculation

Click on Calculate to obtain the ideal threshold value for out system. We should enter it in DSP Link, inside of LIMITER section in the OUT we want to configure. Click on RESET to return LimCal to default values.

The screenshot displays the Amate Audio software interface. On the left, a vertical menu lists options: Main, X-over, In 1, In 2, Out 1, Out 2, Out 3, Out 4, Out 5, and Out 6. A red arrow points to 'In 2'. The main area shows a 'MIXER' section with two faders, a frequency response graph with 10 points, and a 'PARAMETRIC EQ' table. The 'LIMITER' section is highlighted with a red box, showing 'MUTE' (checked), 'INVERT' (unchecked), 'DELAY' (0.0 ms), 'THR' (2.90dBu), and 'REL' (50ms). The 'GAIN' section on the right shows a vertical scale from -48 to +12 dB.

ON	TYPE	FREQ	Q	GAIN	ON	TYPE	FREQ	Q	GAIN
<input type="checkbox"/>	Bell	20Hz	1.0	0.00	<input type="checkbox"/>	Bell	1.00k	1.0	0.00
<input type="checkbox"/>	Bell	50Hz	1.0	0.00	<input type="checkbox"/>	Bell	2.50k	1.0	0.00
<input type="checkbox"/>	Bell	100Hz	1.0	0.00	<input type="checkbox"/>	Bell	5.00k	1.0	0.00
<input type="checkbox"/>	Bell	250Hz	1.0	0.00	<input type="checkbox"/>	Bell	10.0k	1.0	0.00
<input type="checkbox"/>	Bell	500Hz	1.0	0.00	<input type="checkbox"/>	Bell	15.0k	1.0	0.00



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### **Troubleshooting**

#### **A pop-up with the message *“Impedance below 4Ohms[...]*” appears**

The configuration selected has a total impedance (Parallel interconnection) below 4 Ohms. These configurations need to be taken care of, since they are very amplifier demanding. Some of our amplifiers can go below of 4 Ohms but still we don't recommend this configuration. In the case your project requires so, contact us. Our application engineers will design a solution specifically for your project.

#### **A pop-up with the message *“Amplifier mode not supported”* appears**

This happens when we tell LimCal our amplifier is in Bridge mode with a system configuration that is not capable to perform it. This usually happens with amplifier not designed to work in Bridge mode below 8 Ohms. LimCal suggests this by not showing amplifier information before we Calculate the threshold.

#### **An *“/!\ Amplifier at maximum power”* alert appears**

LimCal is telling us that with this configuration, regardless the threshold, our amplifier works at full power. Although this isn't a problem for the system integrity, a common practice is never let the amplifier work constantly at full power.