

# Control DSP input with pilot tone



*Our pilot tones are permanent tones on the edge of the audible range. Failure to follow these instructions may cause damage to the speakers!*

## 1. Pilot tones

By activating the "Pilottone detection" option in the DSP Monitor, a folder with tones can be created on the desktop. Choose a tone with as high frequency as possible, in a format which can be played by your radio. Check the level at max. volume with muted outputs. This level should be -3dB and must be present at input 1+2.

At lower level, the input to be controlled is not fully leveled.  
(Can be increased in the mixer)

At higher level the control range is reduced at high level.

DSP Monitor Mode

Mute all Outputs

Level -3dB  
Input 1+2

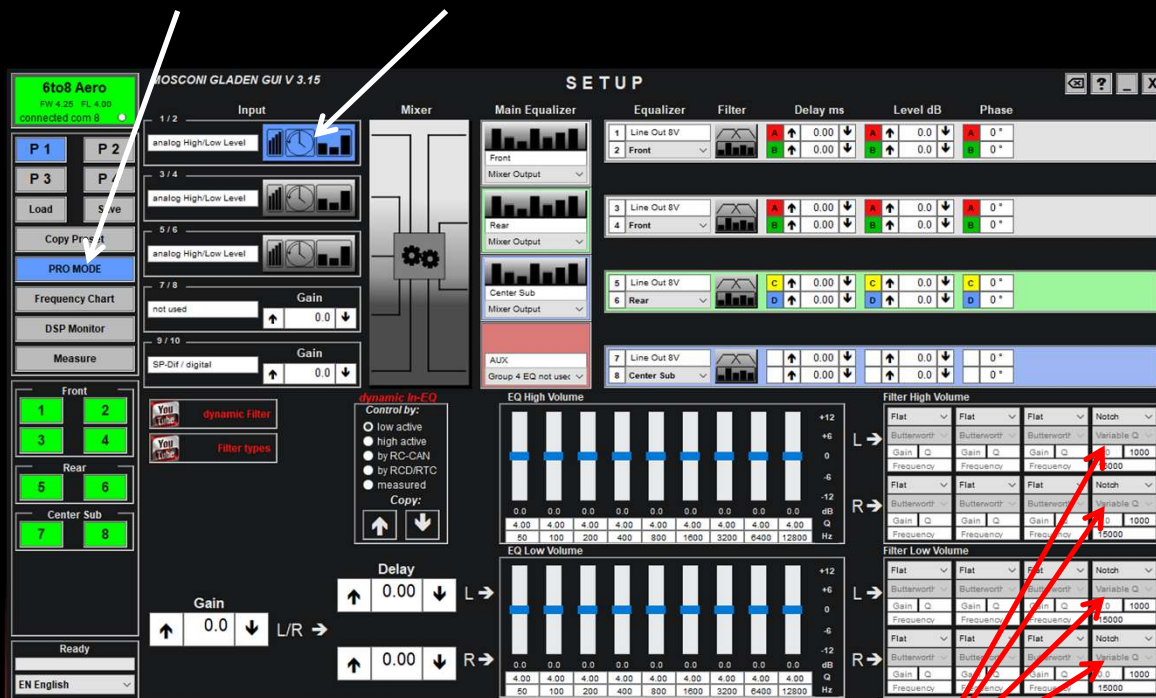
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## 2. Settings

For the input filters for channel 1+2 a notch filter with the frequency of the pilot tone must be set. Check the attenuation (min. 60dB) of the filters in DSP Monitor mode.

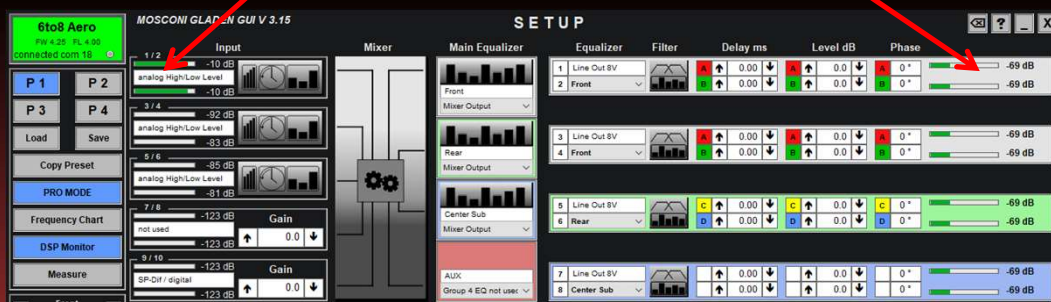
Example Pilot tone 15kHz

### PRO MODE / Input filter



Notch 15000Hz  
Bandwidth 1000Hz

Input / Outputs  
Attenuation ~60dB



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## 3. Activation

The "Pilot tone detection" checkbox in the DSP Monitor must be activated. Detection and control is done at input 1/2.

(With "Detect on AUX group" the output of the AUX group can be used for detection and control -> see 5. Headunit with Allpass)

"Pilot tone" indicates when the pilot tone has been detected.

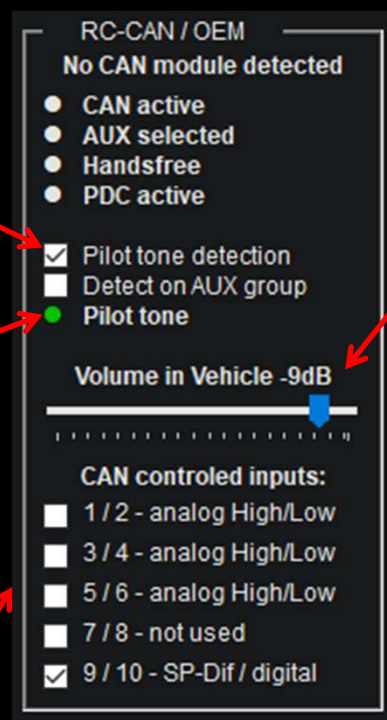
Under "Volume in Vehicle" you can now see the set volume in the vehicle.

Select under "CAN controlled inputs" which input / inputs are to be controlled.

Activate function

Display  
„Tone detected“

Controlled inputs



Display  
Volume

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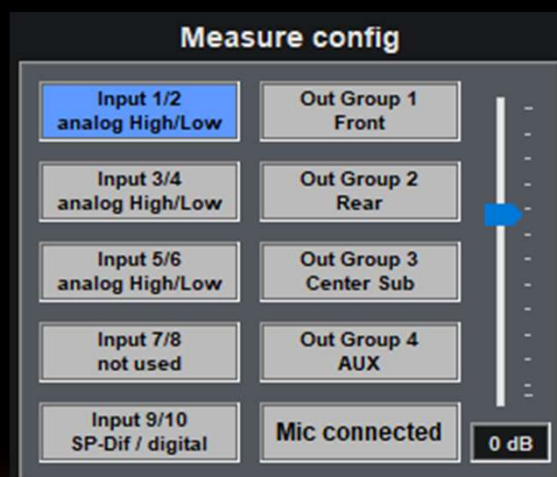
## 4. Notes

The detection of the pilot tone requires a correct phasing of the channels.

*If your headunit uses allpass filters (e.g. Hundai / Kia), then these must be corrected in the dISC menu and the option "Detect on AUX group" must be used. See point 5.*

If the pilot tone is audible in your setup you can increase the bandwidth of the notch filter, use a second notch or mute the analog inputs with a trigger option.

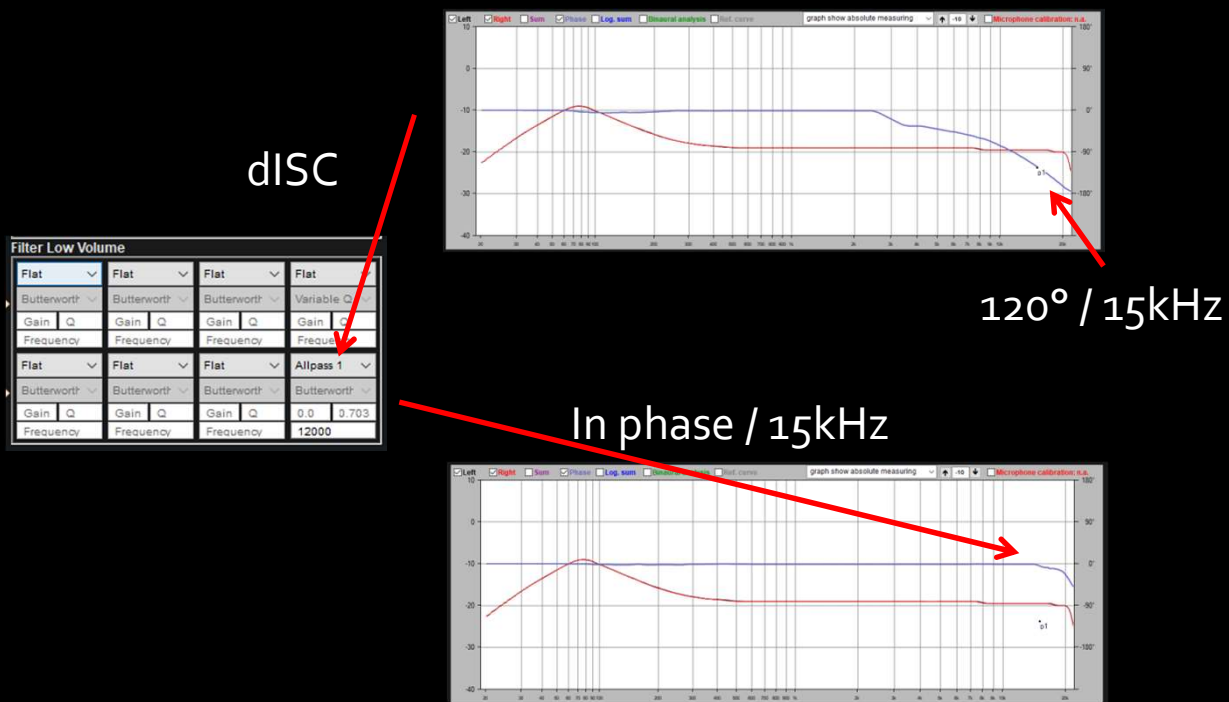
If the measurement functions (RTA / Delay) have been used, then at the end of the measurements the input 1/2 (or Out Group 4) and the sensitivity 0 dB must be set at "Measure Config". Alternatively, the DSP can be switched off and on again.



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## 5. Headunit with Allpass-Filter / Phase EQ

The reliable detection of the pilot tone requires the correct phase at the corresponding frequency. If the sweep measurement shows a phase error (in the picture  $120^\circ$  at 15kHz), then the phase must be corrected in the dISC menu with allpass filters.



Switch the detection of the pilot tone to "Detection on AUX group". The filtering of the tone must now be done in the output filters of the tweeter.



More info and valuable tips on our Youtube channel:  
<https://www.youtube.com/c/GLADENMOSCONI>