ADVANCE PARIS

NOVA DSP

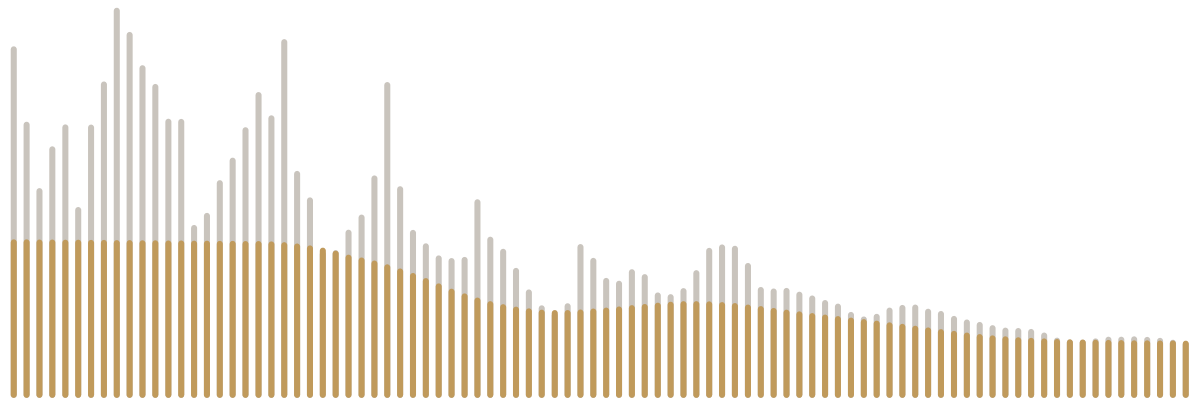
A-i130 MCU : V2.14

A-i190 MCU : V2.14

ACTIVE ROOM CORRECTION AND CROSSOVER

USER MANUAL

version 1.1 — November 2026



ENGLISH

User manual

The Advance Paris team thanks you for choosing an integrated amplifier from the NOVA range.

This manual covers the digital processor built into your amplifier: active room correction and the crossover between your speakers and your subwoofers. Setting it up requires a computer, a calibrated measurement microphone and the free Room EQ Wizard software.

The settings described here cannot be made by ear. Please read this manual in full before you begin, and follow the steps in the order given.

General operation of the amplifier, its inputs, its outputs and its remote control are described in the user manual supplied with the unit.

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Safety instructions

Set the amplifier volume to a normal listening level, comparable to the level at which you listen to music. If the first measurement comes out too quiet or too loud, adjust it, then **keep that same level for all subsequent measurements** : the slightest volume change during a series will distort the results.

BEFORE MEASURING

- Connect your speakers and subwoofers with the amplifier switched off and unplugged from the mains.
- Check the polarity of every speaker: a channel wired the wrong way round makes any correction impossible.
- Connect the measurement microphone to the computer only, never to the amplifier.
- Make sure the DSP is switched off before the first measurement series: you must measure your room as it is. A long press on the **Bypass EQ** key on the remote control toggles the display between `DSP ON` et `DSP OFF`.

DURING THE MEASUREMENTS

- Do not stand close to the speakers, on axis, during a sweep.
- Never measure above the maximum level your speakers or subwoofer can handle.
- Stop the measurement immediately if you hear clipping, abnormal hiss, or notice a smell of overheating.
- Do not change the amplifier volume between two measurements in the same series: the levels recorded would no longer be comparable.

USB STICK AND CORRECTION FILE

- Never remove the USB stick while a correction file is loading.
- Turn the volume down before activating or changing a correction: the output level can change noticeably.
- Do not switch the amplifier off while a correction is being written to memory.

GENERAL

- Do not open the unit: it contains no user-replaceable parts.
- Any servicing must be entrusted to your dealer or to Advance Paris after-sales service.
- Refer to the user manual of your NOVA for all electrical safety instructions.

1. Introduction

To perfect the sound of your system, it is very often necessary to correct certain flaws inherent to the shape of your room, its dimensions, the position of your speakers or your listening position. In addition, when using subwoofers, a balanced overlap must be established between the subwoofers and the main speakers.

Integrated amplifiers in the NOVA range include a DSP *(Digital Signal Processor)* operating on **four channels**, for full control of each of the following configurations.

2.0

Two speakers

L and R channels. Room correction only, no crossover.

2.1

Two speakers and subwoofer

One or more subwoofers, all fed the same mono signal, but corrected and delayed separately on the Subwoofer 1 and Subwoofer 2 outputs.

2.2

Two speakers and two subwoofers

Two subwoofers minimum, possibly more. Subwoofer output 1 carries the left channel, Subwoofer output 2 the right channel.

These settings cannot be made by ear. Room correction and the speaker / subwoofer overlap rely on level and phase differences that listening cannot quantify. A computer, a calibrated measurement microphone and acoustic measurement software are essential to achieve a quality setup.

PROCEDURE

The following pages describe the required equipment, the connections, the measurement software and each of the steps. At the end of the procedure you will have a correction file, to be placed on a USB stick inserted at the rear of the amplifier, in the **USB-A port marked "DSP"**.

Connect p. 7 → Measure p. 14 → Correct p. 19 → Export p. 22 → Activate p. 23

2. Required equipment

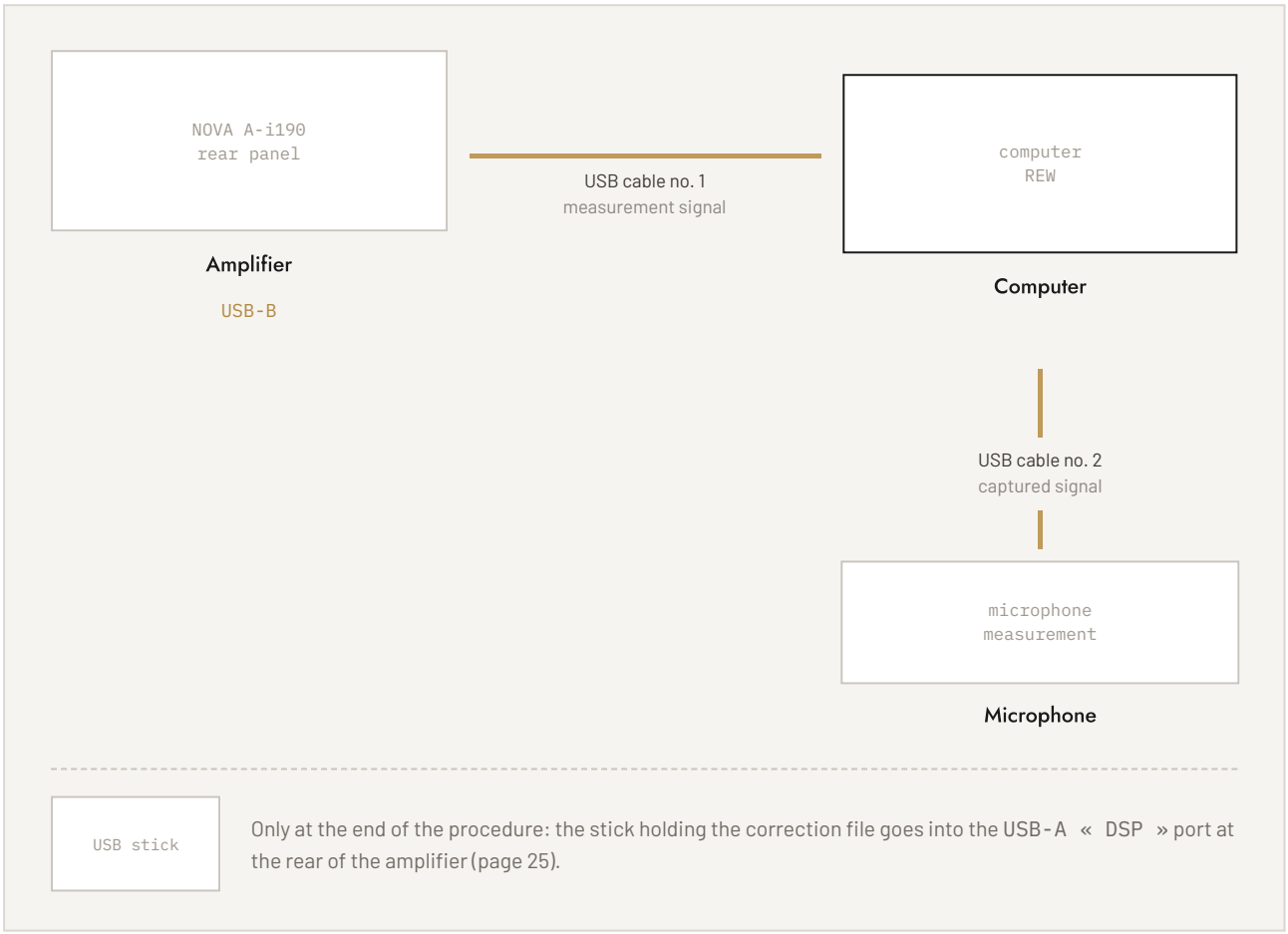
NOT SUPPLIED WITH THE UNIT

NOVA amplifier A-i190 ou A-i130	The DSP is built into the amplifier. No additional box is required.
Computer Essential	Apple or Windows, with two free USB ports. Java is installed automatically with the measurement software.
Measurement microphone With calibration file	Omnidirectional microphone supplied with its individual calibration file. A USB microphone, such as the miniDSP UMIK-1, is the simplest: it plugs straight into the computer. The Room EQ Wizard home page — www.roomeqwizard.com — recommends several models.
Microphone stand Recommended	Adjustable stand that holds the microphone horizontally, capsule at ear height at the listening position, without holding it by hand.
USB cable — computer to NOVA USB-A or USB-C to USB-B	Connects to the **USB-B** input of the amplifier. The computer sends the measurement signals over this link.
USB cable — computer to microphone Often supplied with the mic	Check the exact connector on your microphone: USB-B mini or micro depending on the model. Allow enough length to reach the listening position, or an active USB extension beyond 5 metres.
USB stick FAT formatted	Used to transfer the correction file to the amplifier. A low-capacity stick is perfectly adequate.
Room EQ Wizard software Free	Download from **www.roomeqwizard.com**. The screenshots in this manual were taken with version 5.31. REW is a very comprehensive acoustic measurement program: **reading its online help is strongly recommended** — roomeqwizard.com/help.html.

Analogue microphone. If you use a measurement microphone with an XLR connector, you will also need an audio interface with a mic preamp and 48 V phantom power, itself connected to the computer over USB. The USB microphone remains the simplest and safest option.

3. Connections

Two USB cables are all you need. The computer sees the NOVA amplifier as a sound card: the amplifier is what sends the measurement signals to your speakers. The microphone, by contrast, connects to the computer only.



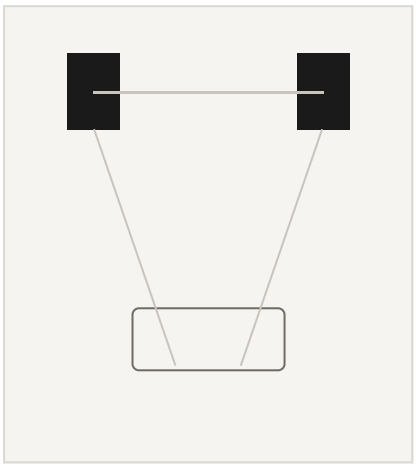
IN ORDER

1	**Speakers and subwoofers**	Connect your speakers to the amplifier terminals and your subwoofers to the dedicated outputs, with the unit switched off and unplugged.
2	**NOVA to computer**	Connect the USB-B input on the rear panel of your NOVA amplifier to a USB port on the computer. Then select the USB source on the NOVA amplifier.
3	**Microphone to computer**	Connect the measurement microphone to a **second USB port on the computer**, never to the amplifier. REW detects audio devices even while running: if you connect it after launching the software, simply reopen *Preferences → Soundcard* to select it.
4	**Check**	Switch the amplifier on. The computer should show two new audio devices: an A-I190 (ou A-I130) output and an input named after your microphone.

Use the USB ports on the computer itself rather than a hub or a monitor: unpowered hubs cause dropouts during a sweep.

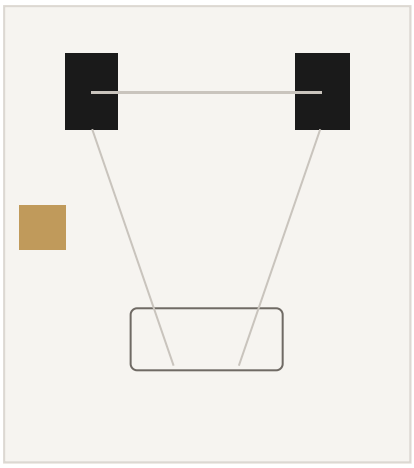
4. Speaker placement

We recommend the baseline positions below. The following steps will correct the flaws of your room if your layout is not ideal — a speaker in a corner, a speaker close to a wall, a sofa against the rear wall.



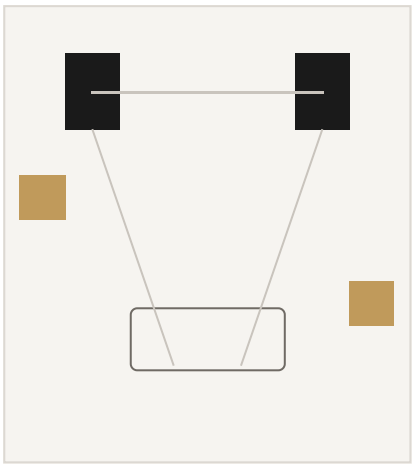
Two speakers

Equilateral triangle between the two speakers and the listening position, 60° spread.



One subwoofer

Mono signal. Find the position by trial, avoiding the centre of a wall.



Two subwoofers

Stereo signal. Asymmetric positions to smooth the room modes.

SPEAKERS

- Distance between the two speakers equal to the speaker — listening position distance.
- At least 40 cm between the rear wall and the back of the speaker, 60 cm from the side walls.
- Tweeters at ear height, ±5 cm, when seated.
- Speakers toed in slightly towards the listening position, strict symmetry left and right.

LISTENING POSITION AND SUBWOOFERS

- Avoid the exact centre of the room: aim for about 38 % of its length.
- Leave at least 50 cm between your head and the rear wall.
- With two subwoofers, do not place them symmetrically: two different positions smooth the response better.
- Note the distances measured: they will be used to calculate the delays (page 23).

A perfectly square room is the worst case: its modes stack up instead of spreading out. If you have the choice, prefer a rectangular room and listen along its length.

5. Room EQ Wizard software

Room EQ Wizard (REW) is free acoustic measurement software. It produces the measurements, the filters and the values you will transfer to the DSP of your amplifier.

WHAT REW LETS YOU DO

- Take acoustic measurements of every speaker — left, right, and one or more subwoofers.
- Check the level setting of the subwoofer or subwoofers.
- Find a crossover frequency between the subwoofers and the main speakers.
- Measure the time delays between the various speakers.
- Establish a reference curve that reduces the effects of your listening room.
- Produce a set of correction coefficients that the NOVA DSP can use.

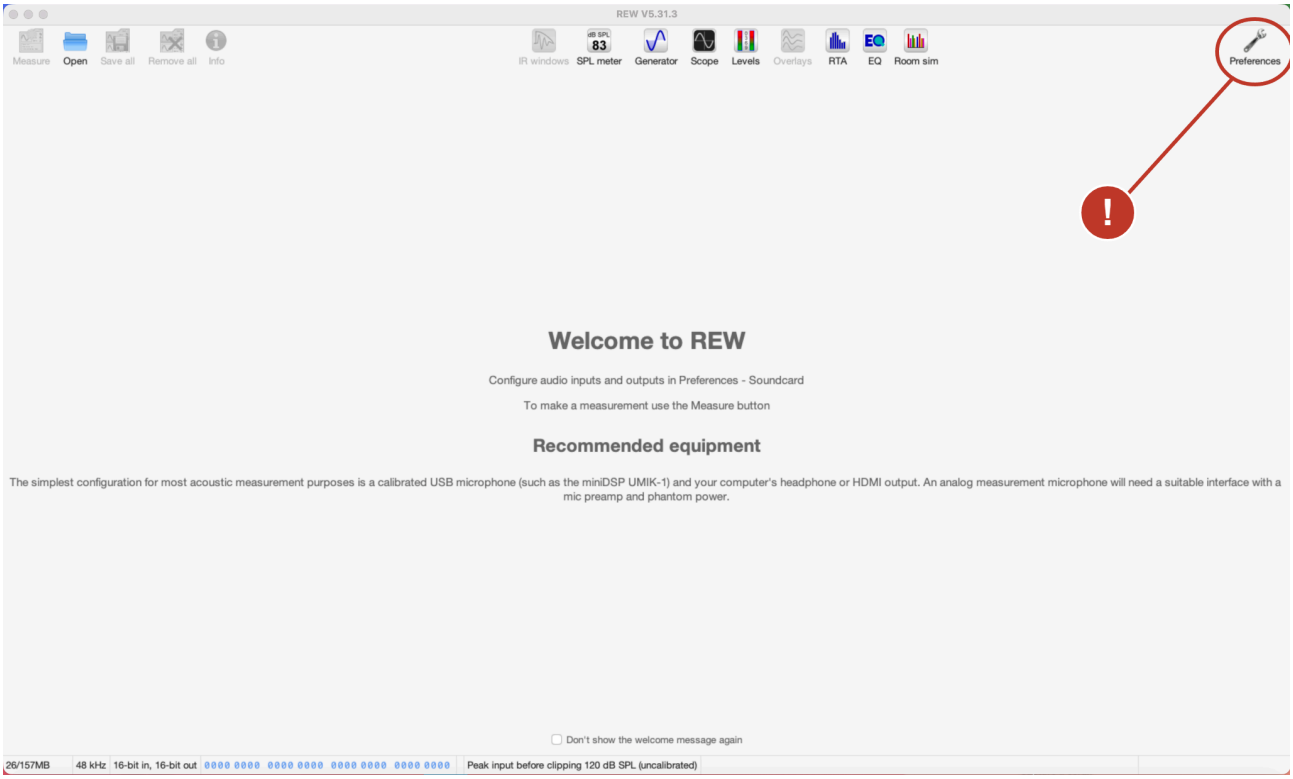
INSTALLATION

1 Go to **www.roomeqwizard.com**, section *Downloads*, and choose the version matching your operating system. Take the version including Java if you do not already have it.

2 Run the installer and follow the prompts. On macOS, allow the application in *System Settings → Privacy & Security* if it is blocked on first launch, and grant it microphone access when the system asks.

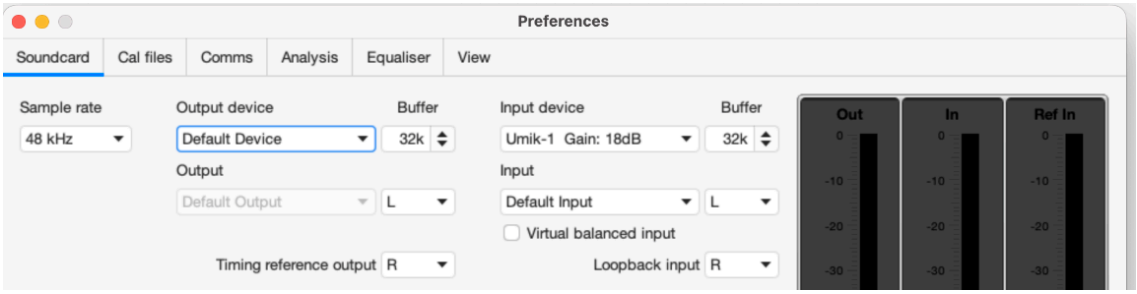
3 Connect the microphone and the amplifier, then launch the software. The welcome screen below appears. A device connected after startup is still detected: simply go and select it in *Preferences → Soundcard*.

4 REW is a very comprehensive program, of which this manual uses only a part. **See its online manual** — roomeqwizard.com/help.html — for any setting not described here.

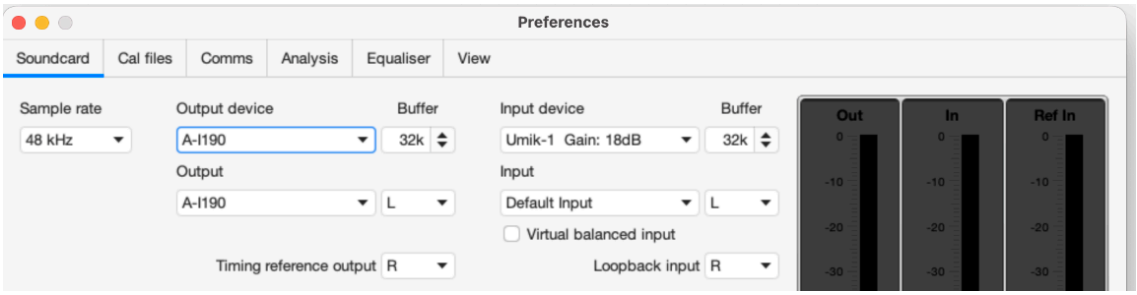


6. Configuring REW

Open **Preferences** then the **Soundcard**tab. On opening, REW shows the computer's default devices: you must explicitly point it to the NOVA amplifier as output and the microphone as input.



Before. The output points to the computer's sound card: the measurement signal would not reach your speakers.



After. The amplifier is selected as output.

SOUNDCARD TAB SETTINGS

SAMPLE RATE	Match it to the operating frequency of your measurement microphone — **48 kHz** for most USB models. It is preferable for the amplifier to be set to the same frequency.
OUTPUT DEVICE	**A-I190** ou **A-I130** depending on your model. If the amplifier does not appear, check the USB-B cable and the source selected on the unit, then restart REW.
OUTPUT	The same device, then channel **L** ou **R** depending on the speaker being measured. Never both at once.
INPUT DEVICE	Your measurement microphone, for example `Umik-1 Gain: 18dB`. With an analogue interface, select the mic preamp.
SWEEP LEVEL	**–10,0 dBFS**. A higher value risks clipping the DSP input.
BUFFER	32k on both input and output. Increase this value if the measurements show dropouts.

Disable all system processing. Operating-system equaliser, sound enhancement, noise reduction or adaptive volume all distort the measurements. Set the computer output volume to 100 % and let REW control the level.

6a. The other tabs

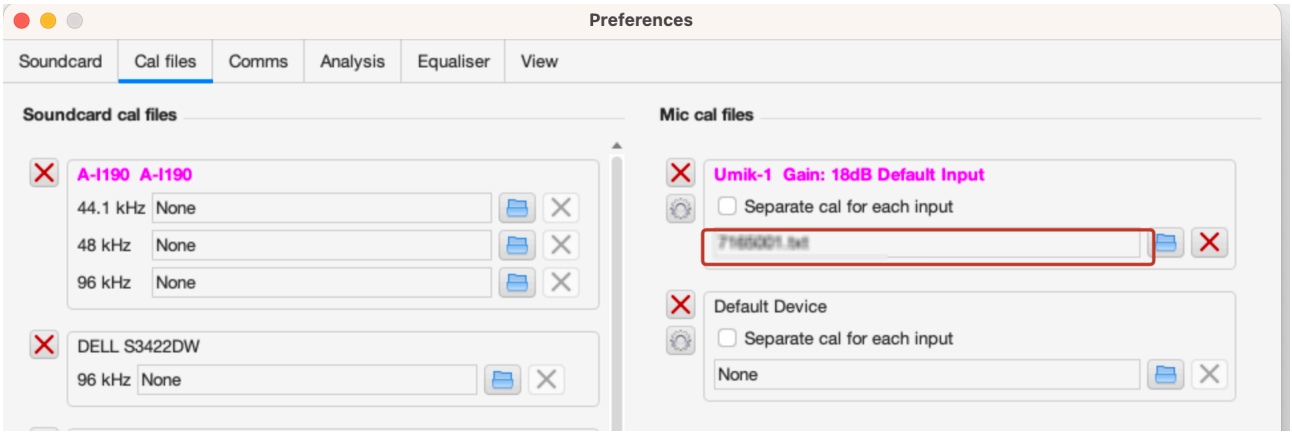
Three other tabs in the *Preferences* panel need your attention before the first measurement. Once set, they will not change again.

Tab `Cal files`

Load your microphone's calibration file here, in `.txt` format. This file is specific to your individual microphone. Refer to your microphone's manual to find out how to obtain it: depending on the model it is supplied with the unit or downloaded from the manufacturer's website.

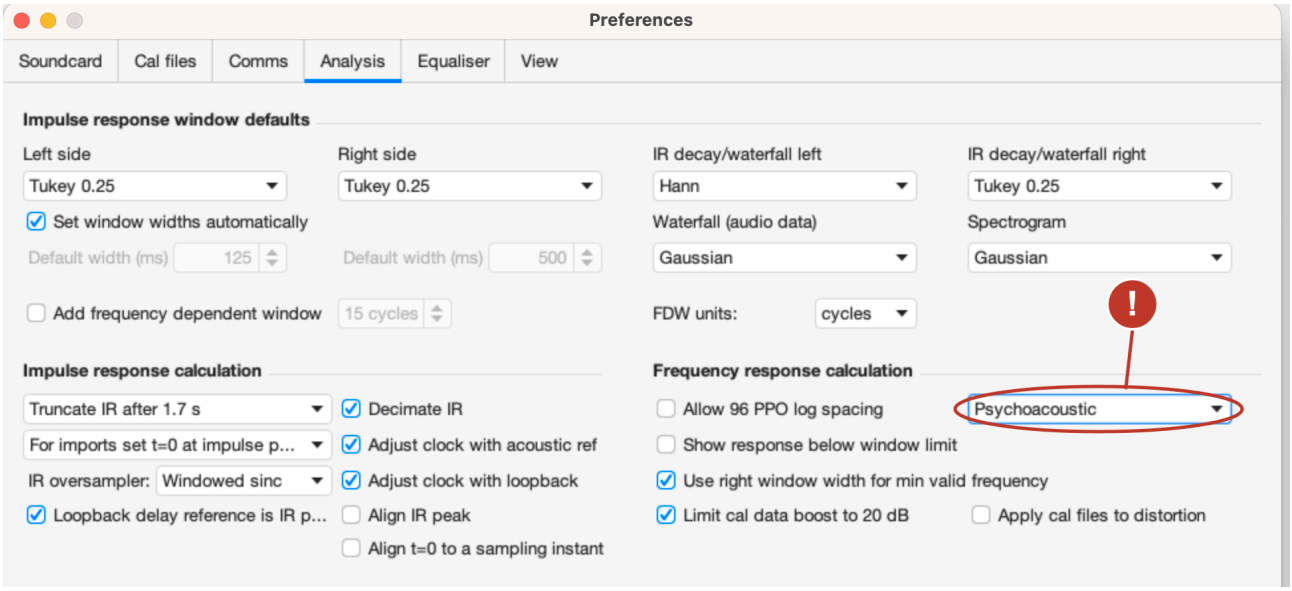
If you have two files, choose the **0°** one and place the microphone horizontally, pointing at your speakers, straight ahead of your listening position.

Shown here as an example, the calibration file of the Umik-1 microphone.



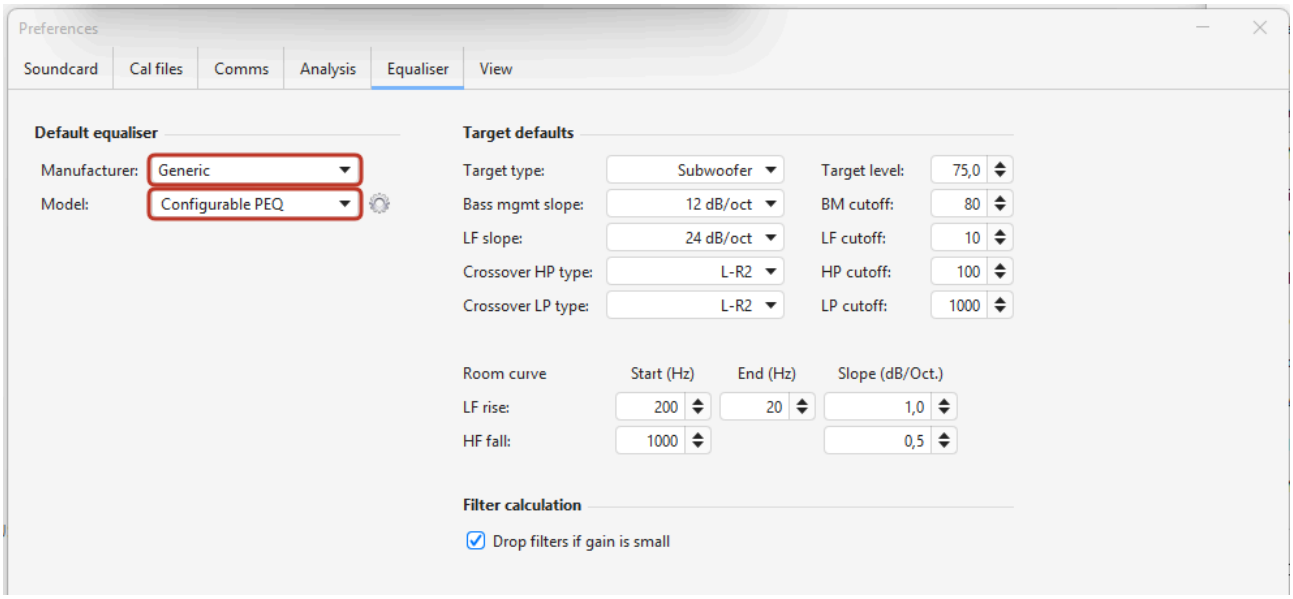
Tab `Analysis`

Keep the default settings, with one exception: in *Frequency response calculation*, select **Psychoacoustic**. Curve smoothing is applied after the measurement, on reading, and not during acquisition.

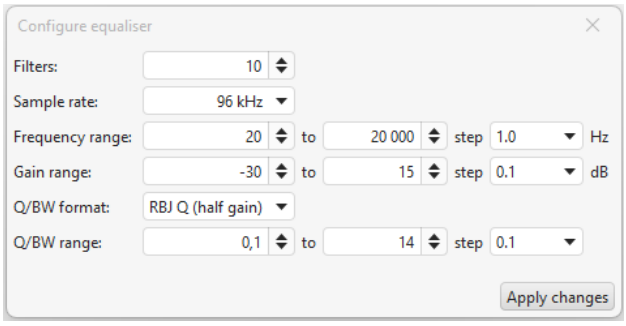


6b. Equaliser tab

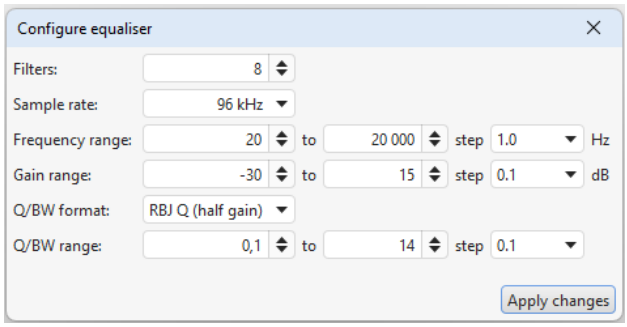
This tab defines how REW will calculate the filters. **Follow the settings shown below exactly**: without them, the values REW produces will not match what the DSP of your NOVA amplifier can apply, and the final result will not match the correction you defined.



Default equaliser. Set *Manufacturer* to **Generic** and *Model* to **Configurable EQ**. The *Target defaults* settings, on the right, are of no interest here.



Speakers. `Filters : 10` for the left and right channels. These settings must be active when you measure your speakers.



Subwoofers. `Filters : 8` for Subwoofer outputs 1 and 2. These settings must be active when you measure your subwoofers.

CHECK BEFORE MEASURING

- The room is silent: measurements must be taken without ambient noise.
- The DSP correction is switched off on the amplifier. To make sure, press and hold the **Bypass EQ** key on the remote control: the display shows `DSP ON` ou `DSP OFF` after each long press. Leave it on `DSP OFF`.
- The amplifier volume is set to a normal listening level, and you will not touch it again until the measurements are finished.

6c. The measurement microphone

The microphone is the only instrument in the chain: its accuracy determines that of the whole correction. Two things are decisive — its calibration and its position.

USB MICROPHONE

Plugs straight into a USB port on the computer. It has its own converter built in: no additional interface is needed.

`mic → USB → computer`

ANALOGUE MICROPHONE

Requires an audio interface with a mic preamp and 48 V phantom power, connected to the computer over USB. Select that interface as *Input device* in REW.

`mic → XLR → preamp → USB → computer`

SETTING UP

HEIGHT	Capsule exactly at ear height when seated, at the listening position.
ORIENTATION	Microphone horizontal, pointing at your speakers, straight ahead of your listening position. Use the 0° calibration file.
CABLE	Leave some slack and run it down the stand, without stretching it across the direct path of the speakers.

The calibration file is not compulsory, but strongly recommended. Without it, measurements are still possible but less faithful: the microphone's own response is confused with that of the room, and the DSP will partly correct flaws that do not exist.

7. Correction and crossover steps

The procedure runs in the following order. Steps 7d to 7g only apply to installations fitted with one or more subwoofers: without a subwoofer, go straight from 7c to 7h. The following pages illustrate measurement and the making of correction coefficients for a 2.1 system — two speakers and one subwoofer.

7a	**Checking the basic settings** Review of every setting made before the first measurement.	15
7b	**Acoustic measurements** Make a measurement window settings and starting the sweep.	16
7c	**The measurement series** Left speaker, right speaker, then each subwoofer separately, at the listening position.	17
7d	**Option: subwoofer level adjustment** Bring the subwoofer level up to that of the target curve in its useful band.	18
7e	**Option: crossover frequency** Determined by the real extension of the speakers in the room.	19
7f	**Option: speaker — subwoofer crossover** Slope type and crossover frequency.	20
7g	**Option: checking the crossover** Check of the speakers + subwoofer sum at the crossover point.	21
7h	**Calculating the correction** Filter generation by REW, within the limits the DSP accepts.	22
7i	**Calculating the time delay between the speakers** Time alignment of speakers and subwoofers at the listening position.	23
7j	**Producing a correction file** Export from REW, formatting and copying to the USB stick.	24

THE FOUR DSP CHANNELS

FL — left speaker	10 EQ
FR — right speaker	10 EQ
SUBL — subwoofer 1 / left	8 EQ
SUBR — subwoofer 2 / right	8 EQ

AT EVERY STEP

- Name every measurement explicitly.
- Do not move to the next step until the previous one is validated.

BEFORE MEASURING

7a. Checking the basic settings

To reach the basic DSP settings, go into the menu of your NOVA amplifier: the **MENU**, then **DSP Settings**.

2.0 Two speakers, no subwoofer

LARGE-SMALL	**LARGE** — the speakers receive the full spectrum.
SUB MODE	Not applicable.
CROSSOVER	This menu does not appear: the LARGE setting hides it.

2.1 Two speakers and one or more subwoofers in mono

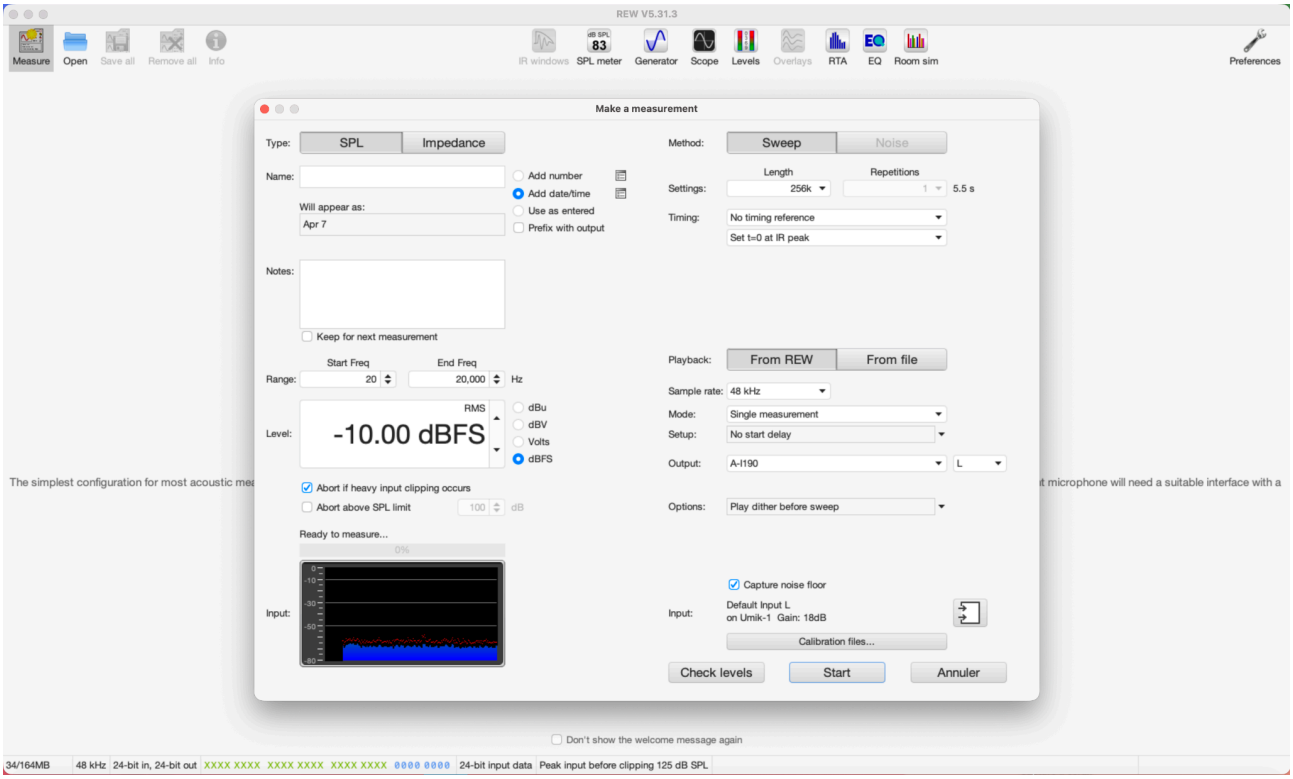
LARGE-SMALL	**SMALL** — reveals the crossover settings.
SUB MODE	**MONO** — Subwoofer outputs 1 and 2 receive the same signal.
CROSSOVER	Frequency and slope of the speaker high-pass and the subwoofer low-pass. The values will be set later, at step 7e.

2.2 Two speakers and two or more subwoofers, in stereo

LARGE-SMALL	**SMALL** — reveals the crossover settings.
SUB MODE	**STEREO** — Subwoofer output 1 to the left, Subwoofer 2 to the right.
CROSSOVER	Frequency and slope of the speaker high-pass and the subwoofer low-pass. The values will be set later, at step 7e.

7b. Acoustic measurements

Click **Measure** in the toolbar. The *Make a measurement* window opens: it holds every parameter of a sweep.



SWEEP PARAMETERS

Type	SPL	Range	20 – 20 000 Hz
Method	Sweep	Level	−10,00 dBFS
Length	256k – 5,5 s	Output	A-I190 – L then R
Repetitions	1	Capture noise floor	ticked

1. **Name the measurement** before running it, for example `Left without DSP`. An explicit name will save you confusion when calculating the filters.
2. **Check the calibration file** with the `Calibration files…` button at the bottom right of the window.
3. **Check the level** with `Check levels…`, then start the sweep with `Start`. Move away, or stay still off the speaker axis.

One channel at a time. The output channel is chosen in the `Output` list in this same window: `L` for the left speaker, `R` for the right. Never measure both speakers together.

7c. The measurement series

Repeat the sweep for each channel, without ever touching the amplifier volume or moving the microphone between two measurements at the same position.

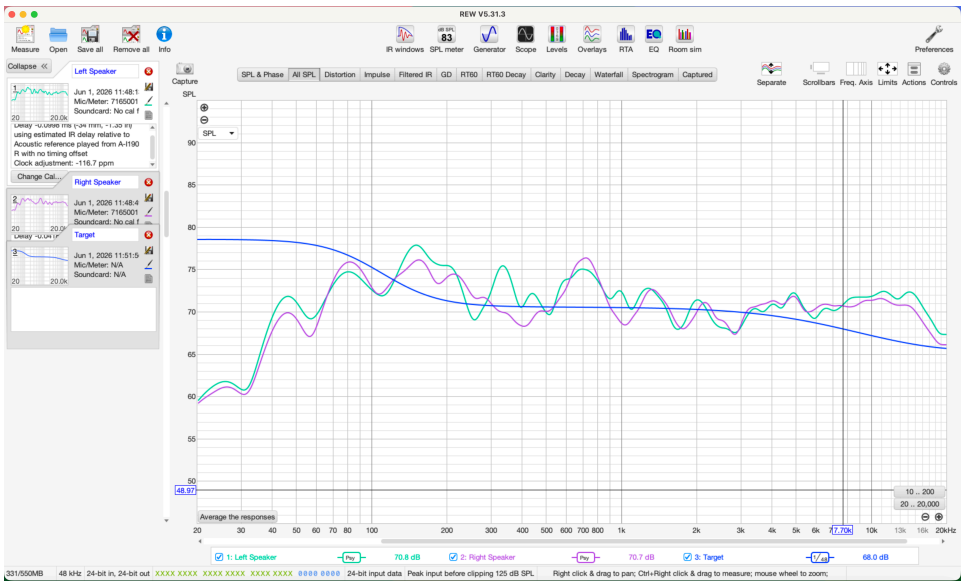
1	**Left speaker**	Output to L. Name the measurement `Left without DSP`.
2	**Right speaker**	Output to R. Name the measurement `Right without DSP`.
3	**Target curve**	Curve downloaded from the Advance Paris website.

LOADING THE TARGET CURVE

The target curve describes the response aimed for after correction. Download the Advance Paris curve from advanceparis.com, section *Documentation* section of the NOVA products.

1. Select a curve — the left speaker for example.
2. Click le pictogramme **EQ** icon in the REW toolbar.
3. In the `Target Settings`, section `House curve`, insert the downloaded file by clicking the folder icon.
4. Press `Calculate target level from response`.
5. Then `Generate measurement from target shape`.

You can close the EQ window and return to the main screen: three curves are now shown, the two speakers and the target curve.



The two speaker curves should broadly resemble one another: a large difference between left and right in the bass reveals an asymmetry in the room; in the midrange and treble it points instead to a placement fault, a wiring fault, or a problem with the speaker itself. The target curve, smoother, represents no measurement: it is the response aimed for after correction, towards which the DSP will bring both speakers.

7d. Subwoofer level adjustment

OPTION

This step brings the subwoofer level up to that of the target curve, in the band where the two meet. A subwoofer set too loud cannot be properly recovered by equalisation: the DSP would have to attenuate it heavily, at the expense of dynamics.

1 Overlay the two measurements

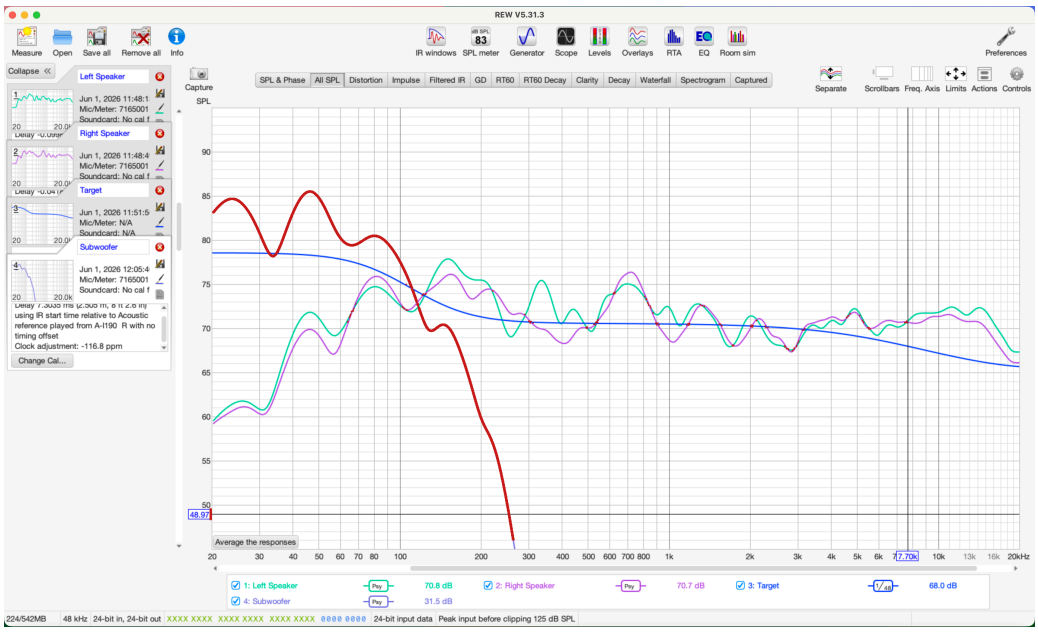
In the *All SPL* tab, display the speaker measurement and the subwoofer alone, with 1/6 octave smoothing.

2 Read the average levels

Read the average speaker level between 30 and 100 Hz, then that of the subwoofer between 20 and 200 Hz.

3 Adjust the gain on the subwoofer

Use the level control on the subwoofer, not the amplifier volume, until the subwoofer curve runs **above the target curve**. Re-measure after each adjustment.



7e. Crossover frequency

OPTION

The crossover frequency is the point from which the subwoofer takes over from the speakers. It is derived from the measurement, not from your speakers' data sheet: what counts is their real extension in your room.

Set the subwoofer filter to its highest value. On the rear panel of your subwoofer, the crossover frequency control must be turned to maximum: the DSP of your NOVA amplifier will handle the filtering. The frequency chosen here will be entered at step 7f, directly in the amplifier menu.

TYPICAL VALUES

SPEAKER TYPE	MEASURED EXTENSION	CROSSOVER
Small bookshelf	60 – 70 Hz	**90 Hz**
Large bookshelf	45 – 55 Hz	**70 à 80 Hz**
Floorstander	35 – 45 Hz	**60 Hz**
Extended floorstander	30 Hz and below	**40 à 50 Hz**

RULES TO FOLLOW

- Stay below 100 Hz: above that, the subwoofer becomes audibly locatable.
- Do not go below 40 Hz if the subwoofer is far from the speakers.
- The DSP low-pass filter accepts 20 to 500 Hz.

CHECKING BY EAR

- The subwoofer should be heard, but you should not be able to locate it by ear.
- The sound is balanced: no frequency stands out.

7f. Speaker — subwoofer crossover

OPTION

Un **low-pass filter** only passes frequencies below the cutoff: it confines the subwoofer to the bass. A **high-pass filter** does the opposite and relieves the speakers of deep bass.

The DSP applies a high-pass to the speakers and a low-pass to the subwoofer. The two cutoffs may differ depending on how your speakers and subwoofer behave in the room; the frequency chosen on page 19 is the starting point.

1 — Set the speakers to SMALL

`MENU / DSP SETTING / LARGE-SMALL → SMALL`

This choice reveals the crossover frequency settings.

2 — Choose the subwoofer mode

`MENU / DSP SETTING / SUB MODE`

3 — Set frequencies and slopes

`MENU / DSP SETTING / CROSSOVER`

AVAILABLE FILTER TYPES

BW12	Butterworth 12 dB/oct	Gentle slope, gradual transition, slightly bumpy sum.
BW24	Butterworth 24 dB/oct	Steep slope. Slightly bumpy sum at the crossover.
LW12	Linkwitz-Riley 12 dB/oct	Flat sum. Suitable when the subwoofer is close to the speakers.
LW24	**Linkwitz-Riley 24 dB/oct**	Recommended. Clean separation, flat sum, reduced overlap.

1. Measure speakers and subwoofer together, at the listening position, with the crossover active. Compare this curve with the speakers alone.
2. A dip of more than 4 dB centred on the crossover frequency indicates **phase opposition** between the subwoofer and the speakers.
3. Invert the subwoofer polarity — 0° / 180° setting — and measure again. Keep the setting that gives the highest level at the crossover. With a continuous phase control, sweep it in 45° steps.
4. The final curve should show neither dip nor peak greater than 4 dB at the junction. This measurement is the one used to calculate the correction.

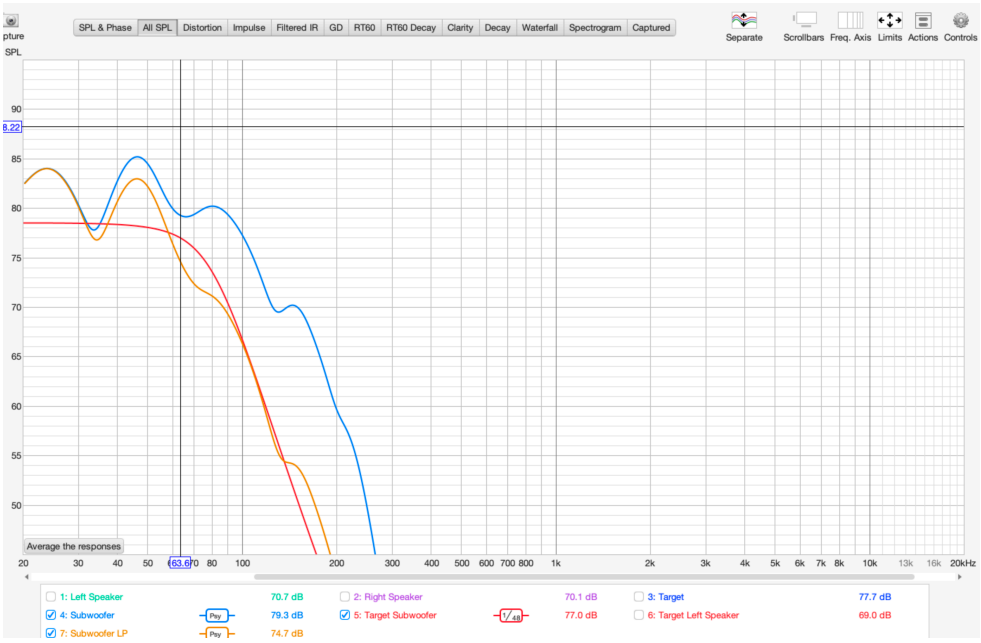
If no phase setting removes the dip, move the subwoofer by 30 to 50 cm and go back to step 7d. A cancellation dip cannot be recovered by equalisation.

7g. Checking the crossover

OPTION

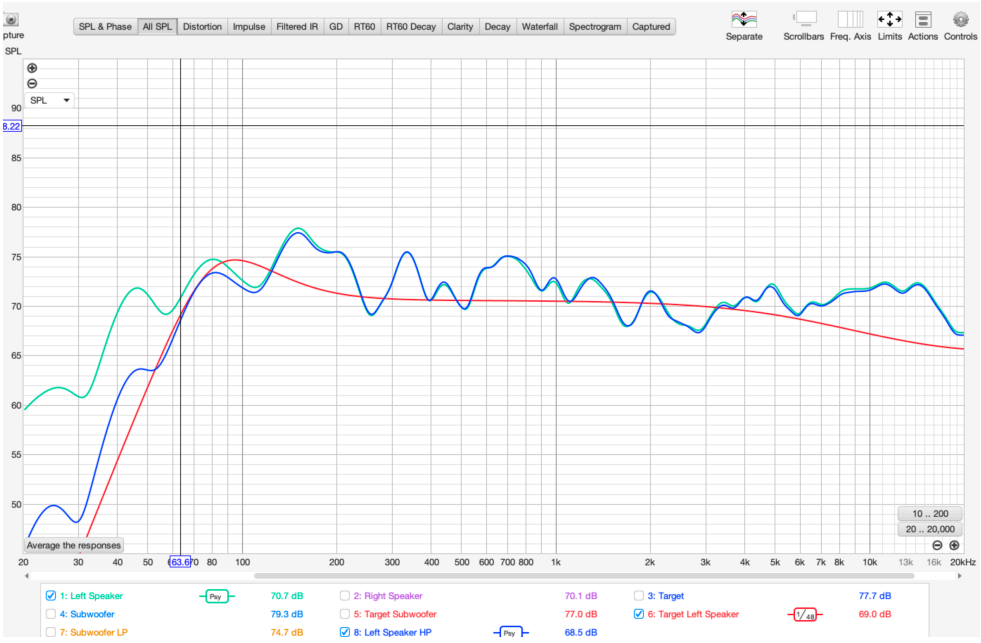
Once the crossover frequencies are set in the menu of your NOVA amplifier, measure each channel again to check the real effect of the filters. To obtain an 80 Hz crossover, the amplifier had to be set to 65 Hz: the response of both the subwoofer and the speaker affect the final result. You will need to repeat the operation several times to obtain a curve that matches what you are after.

LOW-PASS — SUBWOOFER



The `Subwoofer` measurement, unfiltered, in blue, extends well beyond the crossover. The `Subwoofer LP`measurement, in orange, shows the effect of the low-pass: it follows the subwoofer target curve up to the cutoff, then falls away sharply. It is this filtered measurement that must overlay the target in the bass.

HIGH-PASS — SPEAKERS



The `Left Speaker` measurement, unfiltered, in green, reaches down to the deepest bass. The `Left Speaker HP`measurement, in blue, overlays it above the crossover and falls away below: the speaker is relieved of the bass handed to the subwoofer.

7h. Calculating the correction coefficients

REW automatically calculates the filters that bring the measurement closer to the target curve. The result depends entirely on the constraints you impose: those in the table below correspond to the real capabilities of your amplifier's DSP, for each type of driver — speaker or subwoofer.

1 Select a speaker measurement — the left one for example — then open the **EQ**.

2 Check that the selected equaliser is indeed **Generic**, and that the *Configure equaliser* window is set for the type of driver being measured — 10 filters for a speaker, 8 for a subwoofer (page 12).

3 In **Target Settings**, choose settings consistent with your installation. The setting differs depending on the channel being handled.

Speakers	`Bass Limited Speaker`, 80 Hz cutoff, 24 dB/oct slope.
Subwoofers	`Subwoofer`, same crossover frequency as the speakers — 80 Hz in this example — and the same 24 dB/oct slope.

Then enter the constraints below in **Filter Tasks**, then click **Match Response to Target**.

4 Once the correction is calculated, export the coefficients by choosing **Export filter settings as formatted text**.

5 Repeat for each channel, naming each file after the channel measured.

`FL.txt`	left speaker
`FR.txt`	right speaker
`SUBL.txt`	subwoofer left side (1)
`SUBR.txt`	subwoofer right side (2)

The filter sets will differ from one channel to the other: that is normal, the room is not symmetrical.

Correcting a dip is pointless. A deep, narrow dip comes from a cancellation: boosting it consumes power without changing anything audibly. Although the DSP accepts up to +15 dB, correct only the peaks and leave the dips as they are.

7i. Calculating the time delay between the speakers

If your speakers are not at equal distance from the listening position, or if a subwoofer is offset, the sounds do not arrive together. The DSP delays the nearer channel to compensate, over a range of 0 to 50 ms per channel.

DISTANCE — TIME RELATIONSHIP

`1 ms = 34,3 cm  ·  delay (ms) = difference (cm) ÷ 34.3`

Example: a speaker 40 cm closer to the listening position than the other needs a 1.17 ms delay on that channel.

TWO METHODS

By measurement — recommended

1. Display the **impulse response** of each channel in the *Impulse*.
2. Note the time of the main peak for each, in milliseconds.
3. The difference between two values is the delay to apply to the channel that arrives first.
4. This method accounts for the subwoofer's electronic delays, often several milliseconds — it is the only valid one for the speaker / subwoofer crossover.

By distance

1. Measure to the centimetre the distance from each speaker to the listening position, from the tweeter.
2. Work out the difference, then divide by 34.3 to get the delay in milliseconds.
3. Valid between the speakers, but not for the subwoofer.

VALUES ACCEPTED BY THE DSP

Delay — speaker channel	`0 — 50 ms`
Delay — subwoofer channel	`0 — 50 ms`
Channel to delay	`the nearer one`

ENTERING IT IN THE CORRECTION FILE

Once the delay value is measured or calculated, add the line below **at the end of the correction file** of the speaker or subwoofer concerned — the one for the channel to be delayed, never both. Press Enter after `ms` : the file must end with an empty line.

```
Delay : XX ms
```

Replace XX with the value in milliseconds, decimal point as separator — for example `Delay : 1.17 ms`. The line is only entered on the channel nearest the listening position.

7j. Producing a correction file

Your correction files are exported and completed, delays included. All that remains is to gather them into a folder and transfer them to a USB stick. The detailed format of each file is described in the appendix, page 27.

1 Gather the files

Collect the correction files for each channel — left speaker, right speaker, subwoofer 1 and subwoofer 2 — four files at most depending on your configuration.

2 Create the preset folder

Place these files in a folder named after the DSP preset concerned: DSP1, DSP2, DSP3 ou DSP4. The amplifier accepts four DSP folders, that is four different configurations — music, home cinema, night listening without subwoofer, and so on — recalled by the corresponding buttons on the remote control.

3 Copy to the USB stick

Place this folder in the root of a USB stick **formatted as FAT**. You can prepare several folders on the same stick to load several presets.

4 Archive

Keep the correction files and the matching REW project on your computer. They will save you re-measuring everything if the amplifier is reset.

USB STICK LAYOUT

NOVA_DSP	USB stick — FAT
▾ DSP1	Music
FL.txt	left speaker
FR.txt	right speaker
SUBL.txt	left subwoofer
SUBR.txt	right subwoofer
▸ DSP2	Home cinema
▸ DSP3	Night listening
▸ DSP4	Free

The four folders are created in the root of the stick, and each holds the same file names. Their contents, however, must differ from one folder to the next: that is what distinguishes the four configurations. A folder may contain only two files, for listening without a subwoofer.

Text editor only. Do not use a word processor to edit the files: smart quotes and formatting characters make them unreadable by the amplifier. The decimal separator is the point.

8. Activating the correction

Turn the volume down before loading the correction. The output level can change noticeably when it is activated.

1 Insert the USB stick

With the amplifier switched on, insert the stick into the **USB-A marqué « DSP »**port at the rear of the unit. Do not confuse it with the adjacent USB-A port marked "UPDATE", reserved for unit updates.

2 Activate the correction

To activate the DSP, press one of the **DSP 1, 2, 3 or 4** buttons on the remote control. You can define and choose up to four different DSP presets.

3 Verify by measurement

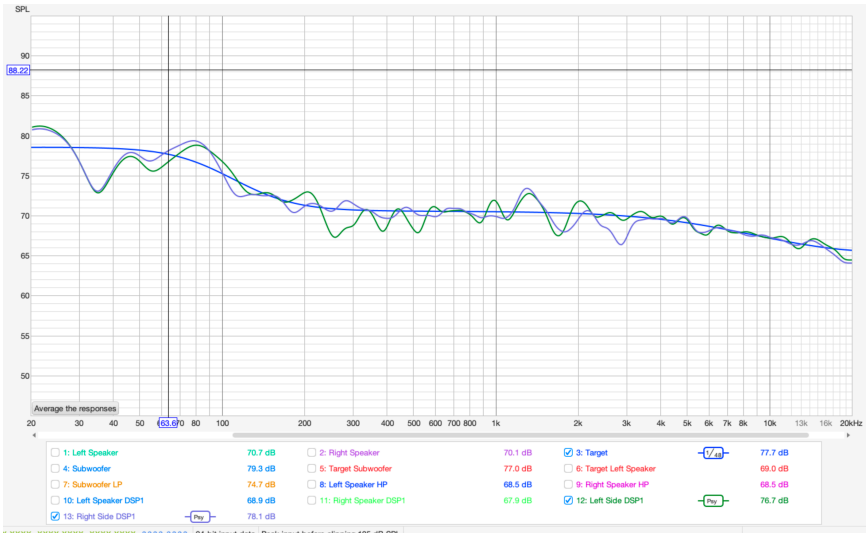
Take another measurement at the listening position, with the correction active, under the same conditions as at the start. The response of both channels should follow the target curve, as below.

THE SOUND SEEMS QUIETER

That is normal: the correction attenuates the peaks and keeps level headroom against digital clipping. Make up for it with the amplifier volume.

WHEN TO REPEAT THE PROCEDURE

- Speakers, a subwoofer or the listening position have been moved.
- Speakers have been changed.
- Major change to the room's furnishings.



Final result with the NOVA DSP

9. Troubleshooting

The amplifier does not appear in REW's output list

Check the USB-B cable and the source selected on the amplifier, then reopen *Preferences → Soundcard* to refresh the output list. Avoid unpowered USB hubs.

REW does not show the microphone in the input list

VérifCheck the USB connection, then reopen *Preferences → Soundcard* and select the microphone in the input list. On macOS, check the microphone access permission.

The measurement is silent or very quiet

The output selected in REW is not the amplifier, its volume is too low, or its active source is not the USB input. Check these three points in that order.

Sound comes from both speakers although only one is being measured

The output channel is set to both channels. In the *Make a measurement*, select L ou R in the list to the right of the *Output*.

The curves from two nearby positions are very different

Stray noise occurred during one of the sweeps, or the microphone moved. Redo both measurements in silence, with nobody in the room.

The bass sounds hollow or dull after correction

The target curve is too flat in the bass, or the correction has tried to fill a cancellation dip. Go back to page 17 and check the loading and the level of the target curve, then limit the correction to peaks.

The Q values do not give the expected result

The equaliser selected in REW is not **Generic**. Other models use a different definition of the Q factor from the DSP's. Go back to page 12 and recalculate the filters.

The unit does not load the correction file

Check the **FAT** formatting of the stick, the file's location in the root, its name and its encoding. Also check that the stick is in the USB-A "DSP" port and not the USB-A "UPDATE" port.

The stereo image is shifted to one side

A delay has been applied to the wrong channel, or the levels of the two channels differ. Check the delayed channel (page 23) and that levels match at 1 kHz.

If the problem persists, note your amplifier model and its firmware version, and contact your dealer or Advance Paris after-sales service.

10. DSP capabilities

EQUALISATION

DSP operating frequency	96 kHz
Speaker channel	10 EQ left · 10 EQ right
Subwoofer channel	8 EQ subwoofer 1 · 8 EQ subwoofer 2
Compatible EQ types (REW)	PK, LSQ, HSQ, LPQ, HPQ
Format Q (REW) – important	**RBJ Q (half gain)**
Q factor	0 – 14
Q step	0,1

GAIN AND FREQUENCY

Gain	–30 / +15 dB
Gain step	0,1 dB
Frequency	0 – 20 000 Hz
Frequency step	1 Hz

CROSSOVER

High-pass filter	30 Hz – 20 kHz
Low-pass filter	20 – 500 Hz
Filter types	BW12, BW24, LW12, LW24

TIME ALIGNMENT

Speaker delay	0-50 ms Left Speaker - 0-50 ms Right Speaker
Subwoofer delay	0-50 ms Subwoofer 1 - 0-50 ms Subwoofer 2