

Plugins Gratuits !

Le plugin
Soundfield by RØDE

Version 1.0.1

Sorti en Septembre 2018

**Comparaison avec le *Surround Zone 2*
et *SPS 200* de Soundfield**



**Bernard Lagnel
Octobre 2018**



Conversion du Format A en Format B et en **AURO 3D (11.1) !!**

Tête de $\approx 4,7$ cm de diamètre



Micro NT-SF1 ≈ 1000 \$

04/2018

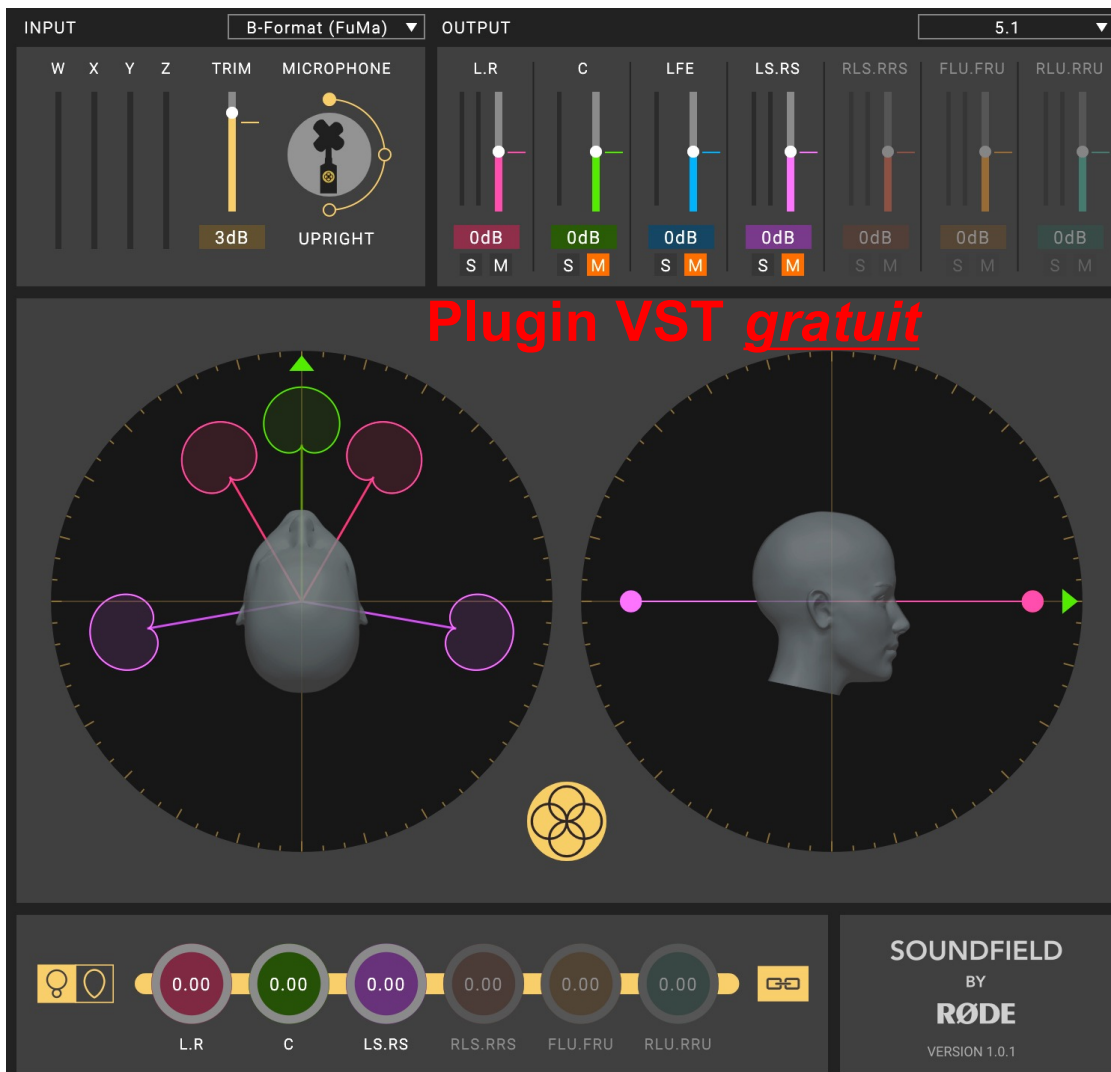
Signe Front

$\varnothing = 2,5$ cm

<http://fr.ode.com/microphones/ntsf1>

SOUNDFIELD BY RØDE
NT-SF1
AMBISONIC MICROPHONE

Capsules TF-45C



<https://fr.ode.com/soundfieldplugin>

Piège : le code des couleurs !

Double XY et Ambéo : 1 2 3 4

NT-SF1 et TétraMic : 1 2 3 4

V1.0.1

Septembre 2018



Micro Soundfield **SPS 200** et les Plugins **VST** de Soundfield :

Tête de ≈ 6 cm de diamètre



Micro SPS 200 ≈ 3500 \$

2008

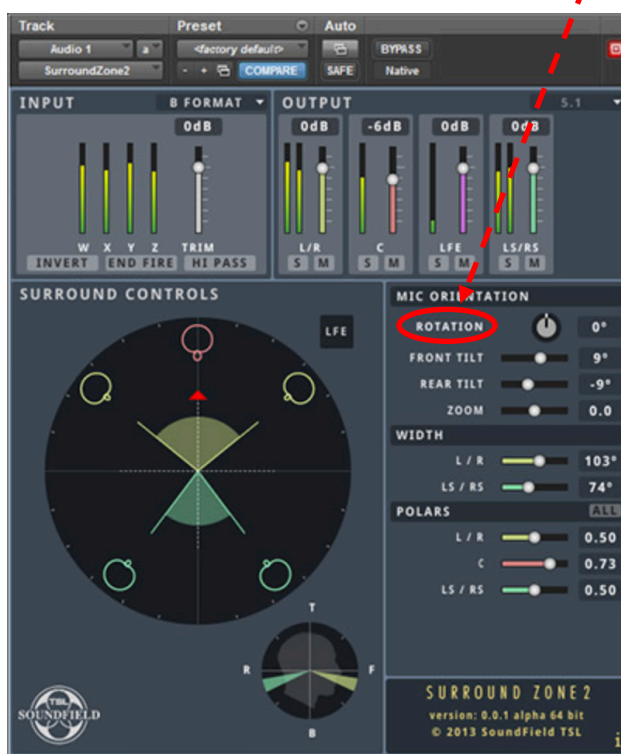
$\varnothing = 2$ cm

SPS 200

Capsule ≈ 206 €
MBHO (KA 200 N)
http://www.mbho.de/products03_22.htm

2 Plugins VST gratuits :
Conversion du Format A en Format B et en 7.1 !

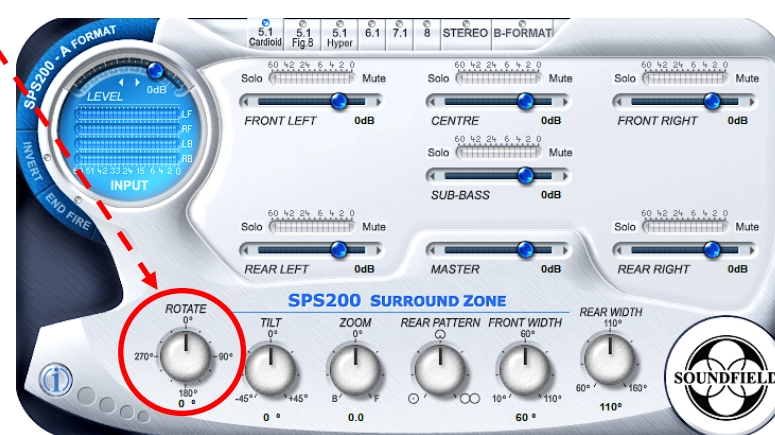
ATTENTION : ROTATE ou ROTATION concerne le plan azimutal **Yaw** uniquement.



Plugin SURROUNDZONE 2

<http://www.soundfield.com/products/surroundzone2>

2013



Plugin SPS 200

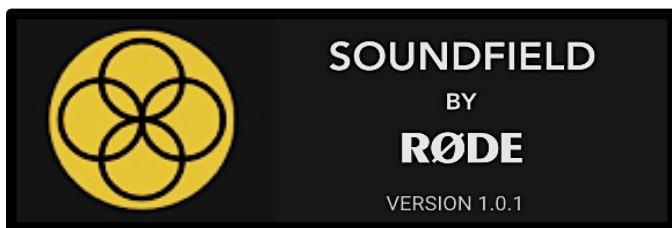
http://www.dcaudiovisuel.com/product_documentation.php/products_id/339

2008

Piège : le code des couleurs !

Double XY et Ambéo : 1 2 3 4

SPS 200 et TétraMic : 1 2 3 4



<https://fr.ode.com/soundfieldplugin>

V 1.0.1

Traitement Ambisonique avancé

Doc RØDE

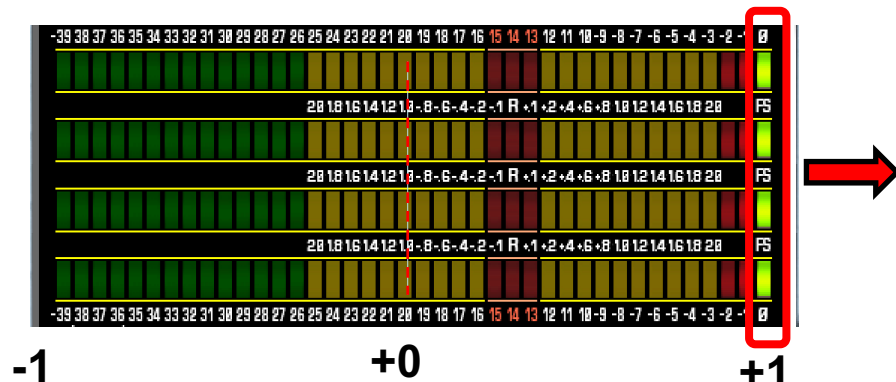
Le nouveau plug-in **SoundField by RØDE** offre une **nouvelle approche révolutionnaire** (**W : + 3 dB « FuMa »**) **du traitement ambisonique**, associée à une nouvelle interface utilisateur intuitive.

Ceci offre le rendu ambisonique le plus précis disponible dans le monde, le tout avec une accessibilité et une facilité d'utilisation légendaires RØDE.

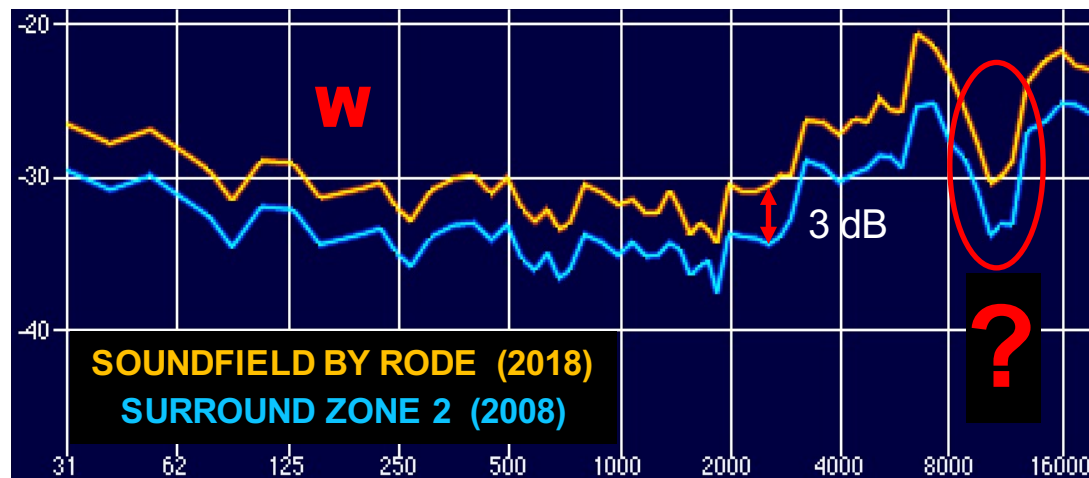
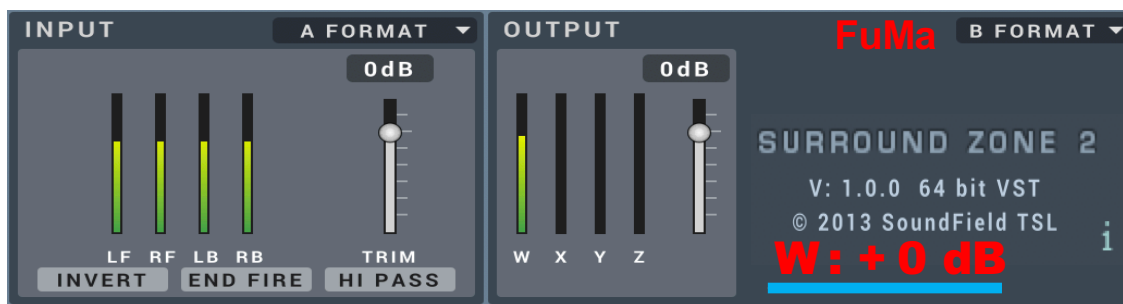
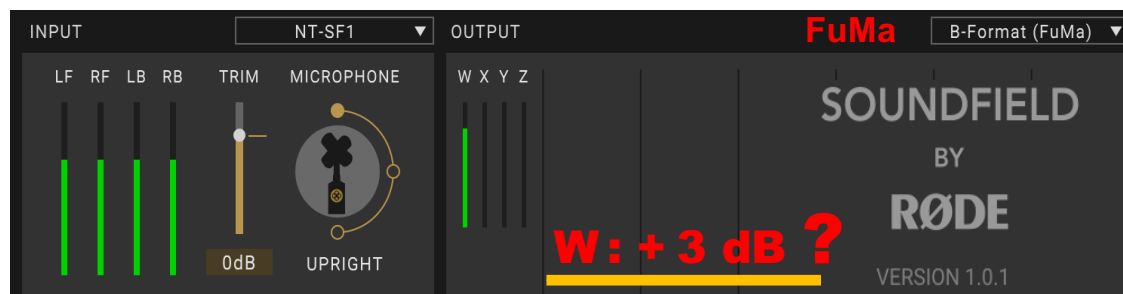
Doc RØDE

W : + 3 dB « FuMa »
W : + 6 dB « ambiX » ?

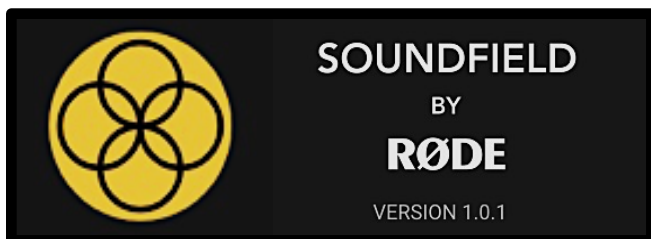
Bruit Rose Corré sur les 4 canaux :



IN : Format A



OUT : Format B (FuMa)

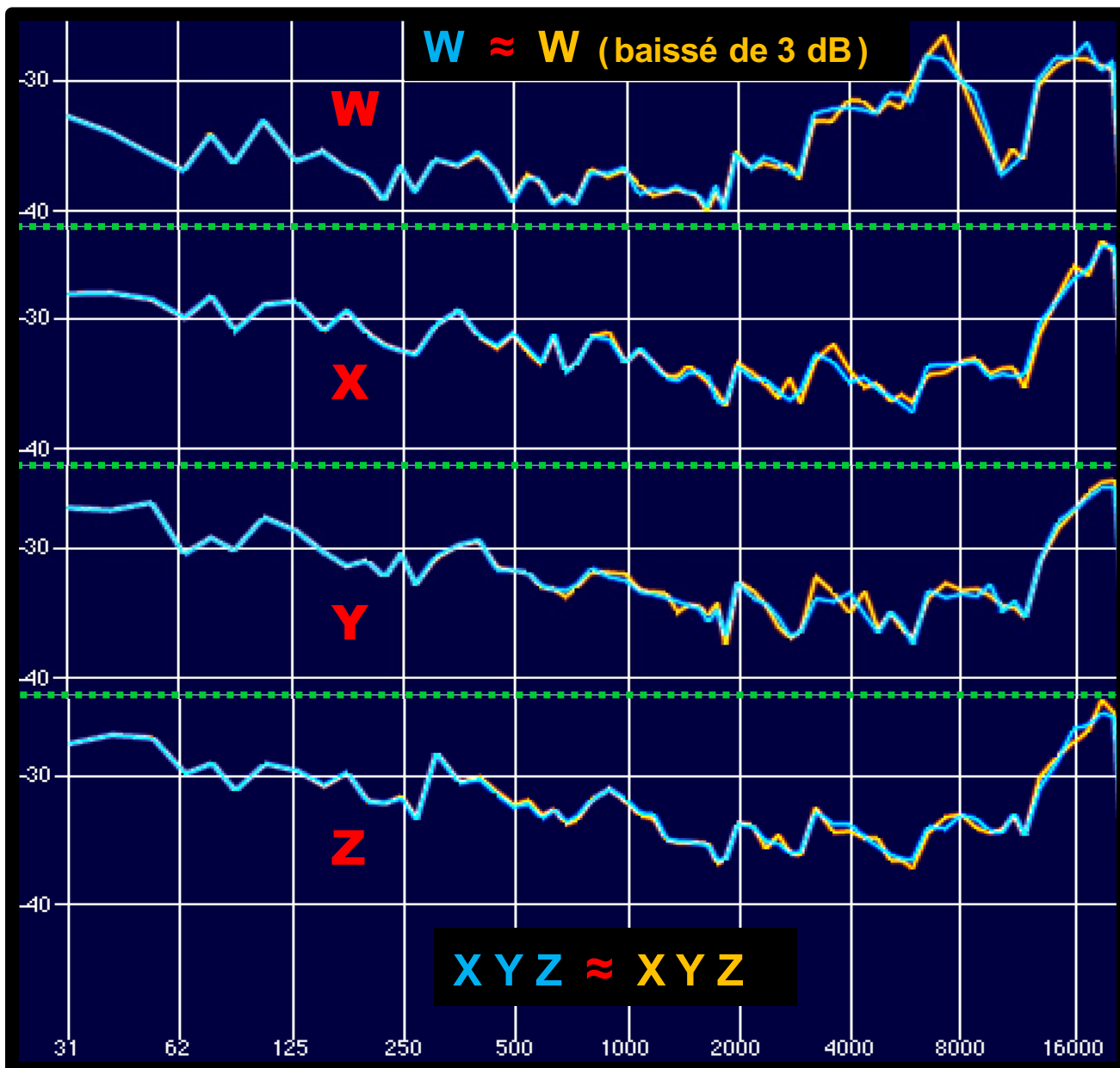


<https://fr.rote.com/soundfieldplugin>

Une nouvelle approche ?

Doc RØDE

V 1.0.1



Le plugin **SoundField by RØDE** fonctionne de manière complètement différente des processeurs ambisoniques traditionnels.

Évitant les matrices, les filtres de correction des générations précédentes,

il utilise un traitement de pointe dans le domaine fréquentiel pour fournir une précision spatiale inégalée à toutes les fréquences.

Doc RØDE

SOUNDFIELD BY RØDE (2018)

≈

SURROUND ZONE 2 (2008)

Input :

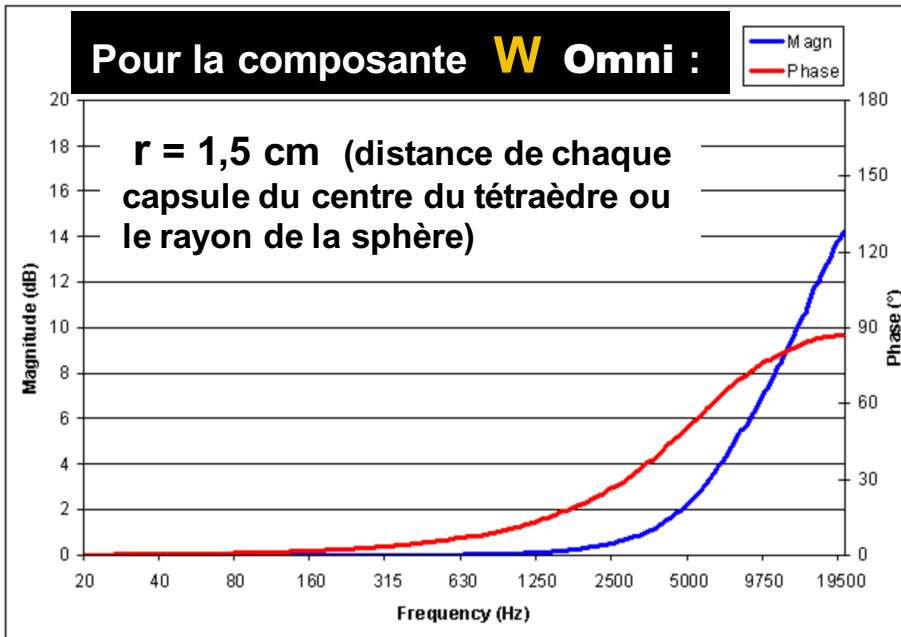
Bruit Rose sur 4 pistes
Corrélé à +0,0

Output :

Format **B** (FuMa)

Réponse en fréquence (**Amplitude** et **Phase**) de filtres théoriques **F_W** pour la conversion du Format A vers le Format B :

Pour la composante **W** Omni :

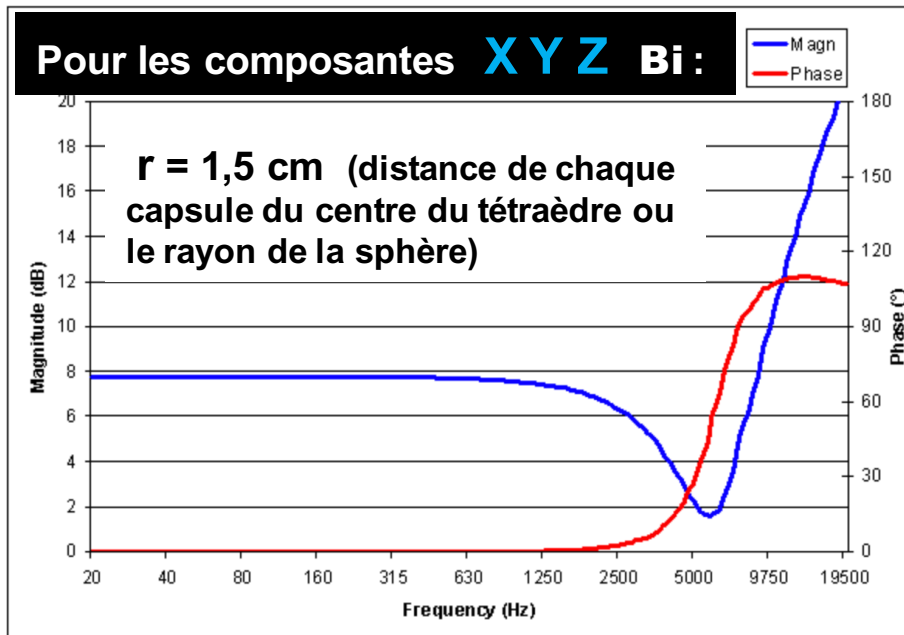


Pour la composante **W** Omni :

$$F_W = \frac{1 + \frac{j\omega r}{c} - \frac{1}{3} \left(\frac{\omega r}{c} \right)^2}{1 + \frac{1}{3} \left(\frac{j\omega r}{c} \right)}$$

<http://pcfarina.eng.unipr.it/Ambisonics.htm>

Pour les composantes **XYZ** Bi :



Pour les composantes **XYZ** Bi :

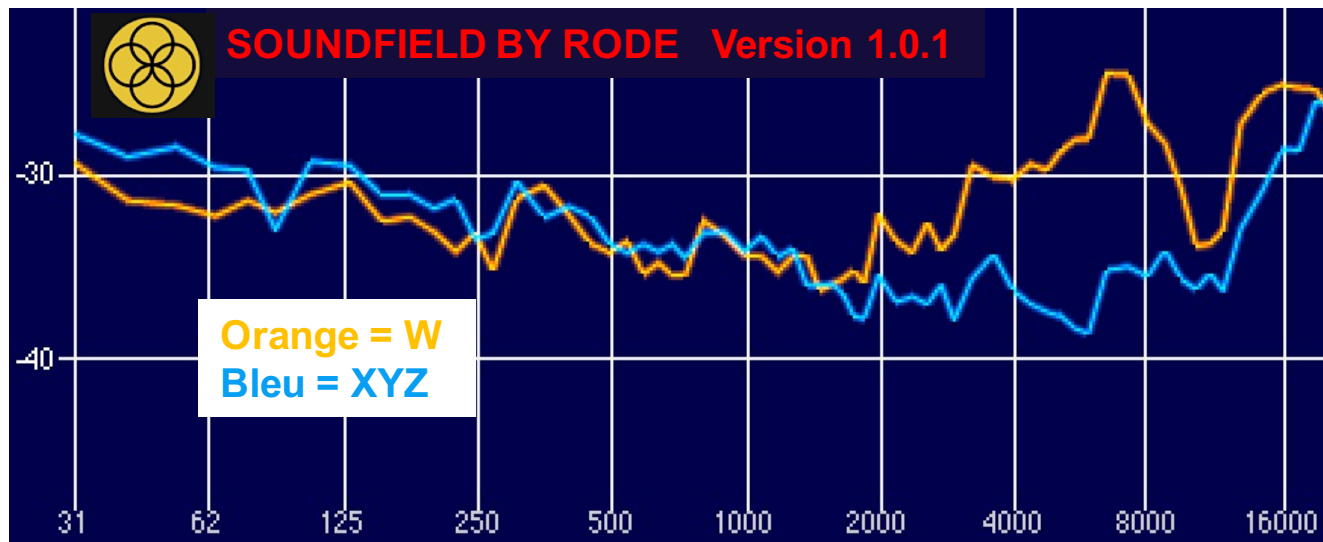
$$F_{XYZ} = \sqrt{6} \frac{1 + \frac{1}{3} \left(\frac{j\omega r}{c} \right) - \frac{1}{3} \left(\frac{\omega r}{c} \right)^2}{1 + \frac{1}{3} \left(\frac{j\omega r}{c} \right)}$$

r = distance de chaque capsule du centre du tétraèdre en m

ω = fréquence angulaire en rad / s ($\omega = 2\pi f$)

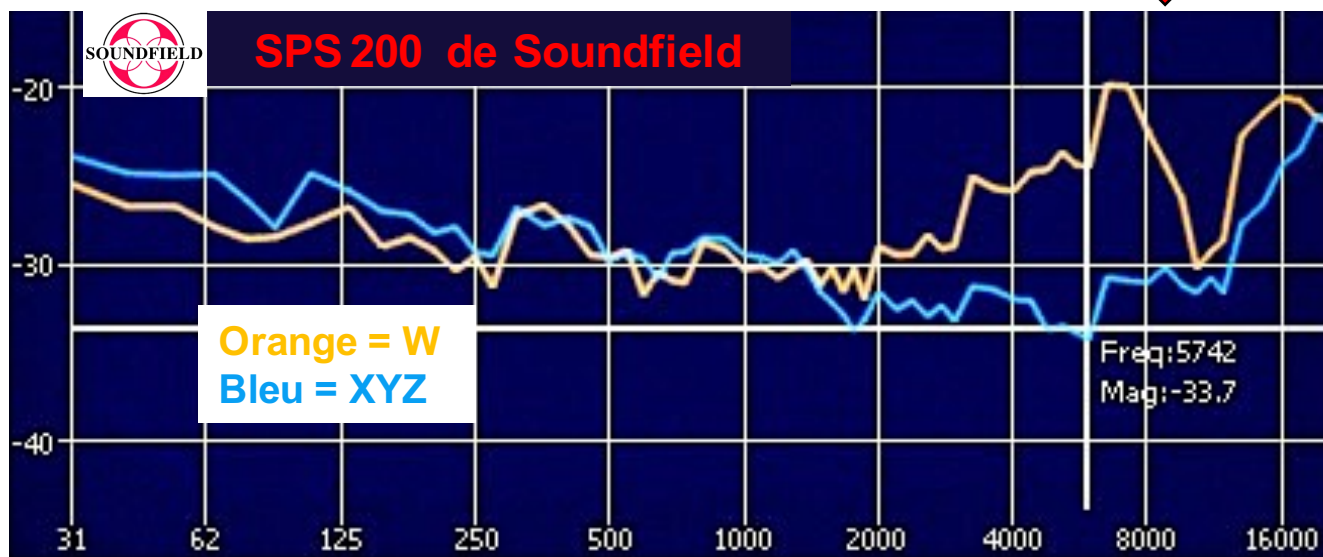
C = vitesse du son en m / s (340 m / s)

Comparaison entre les Plugins : *Soundfield by RØDE* et *SPS 200*



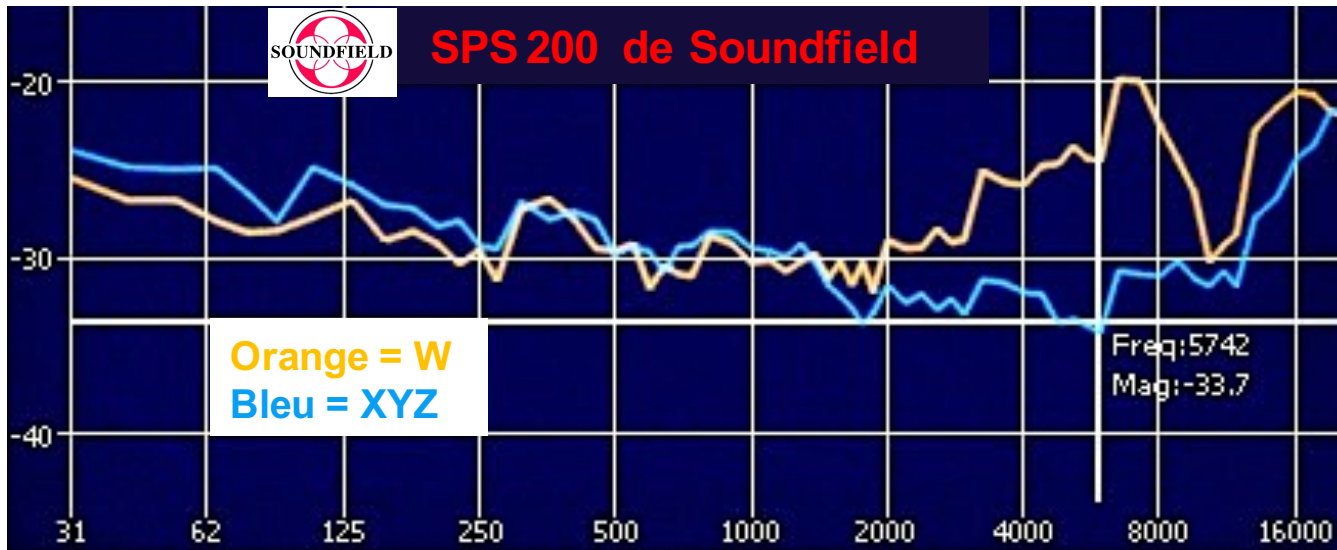
Input : **V 1.0.1**
Bruit Rose sur 4 pistes
Corré à **+0,25**
Output :
Format B (FuMa)
Date de création : 2018

Pratiquement identique à 10 ans d'intervalle !!



Input :
Bruit Rose sur 4 pistes
Corré à **+0,4**
Output :
Format B (FuMa)
Date de création : 2008

Comparaison entre les Plugins : *SPS 200* et *SurroundZone2*



Input :

Bruit Rose sur 4 pistes

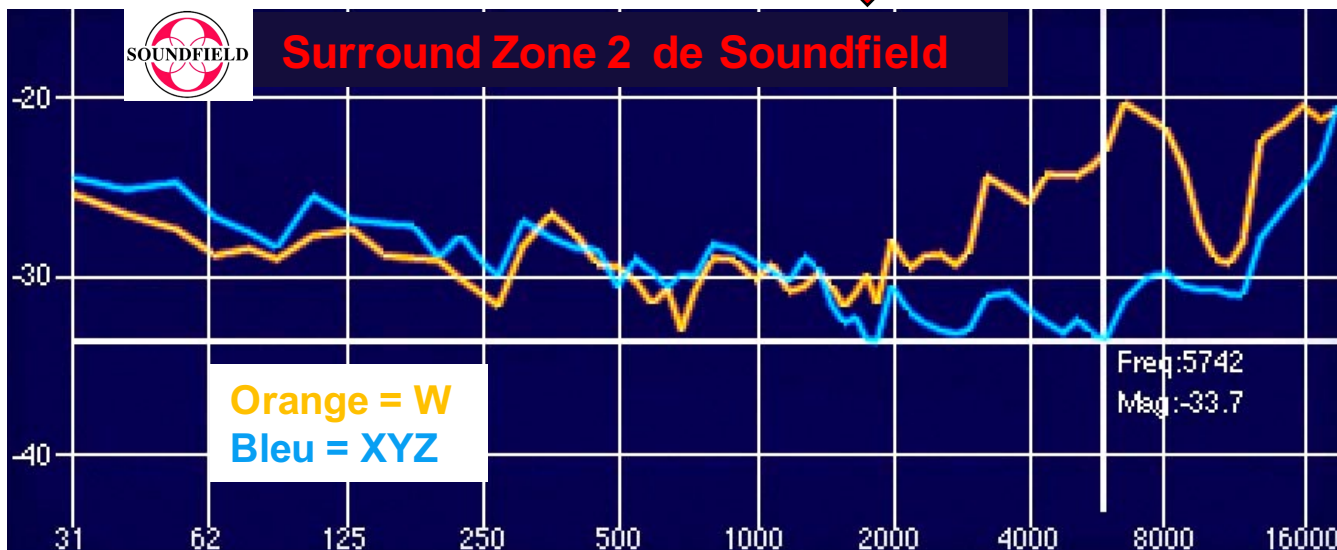
Corrélé à **+0,4**

Output :

Format B (FuMa)

Date de création : 2008

Pratiquement identique...



Input :

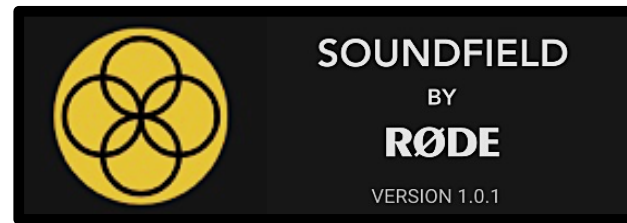
Bruit Rose sur 4 pistes

Corrélé à **+0,4**

Output :

Format B (FuMa)

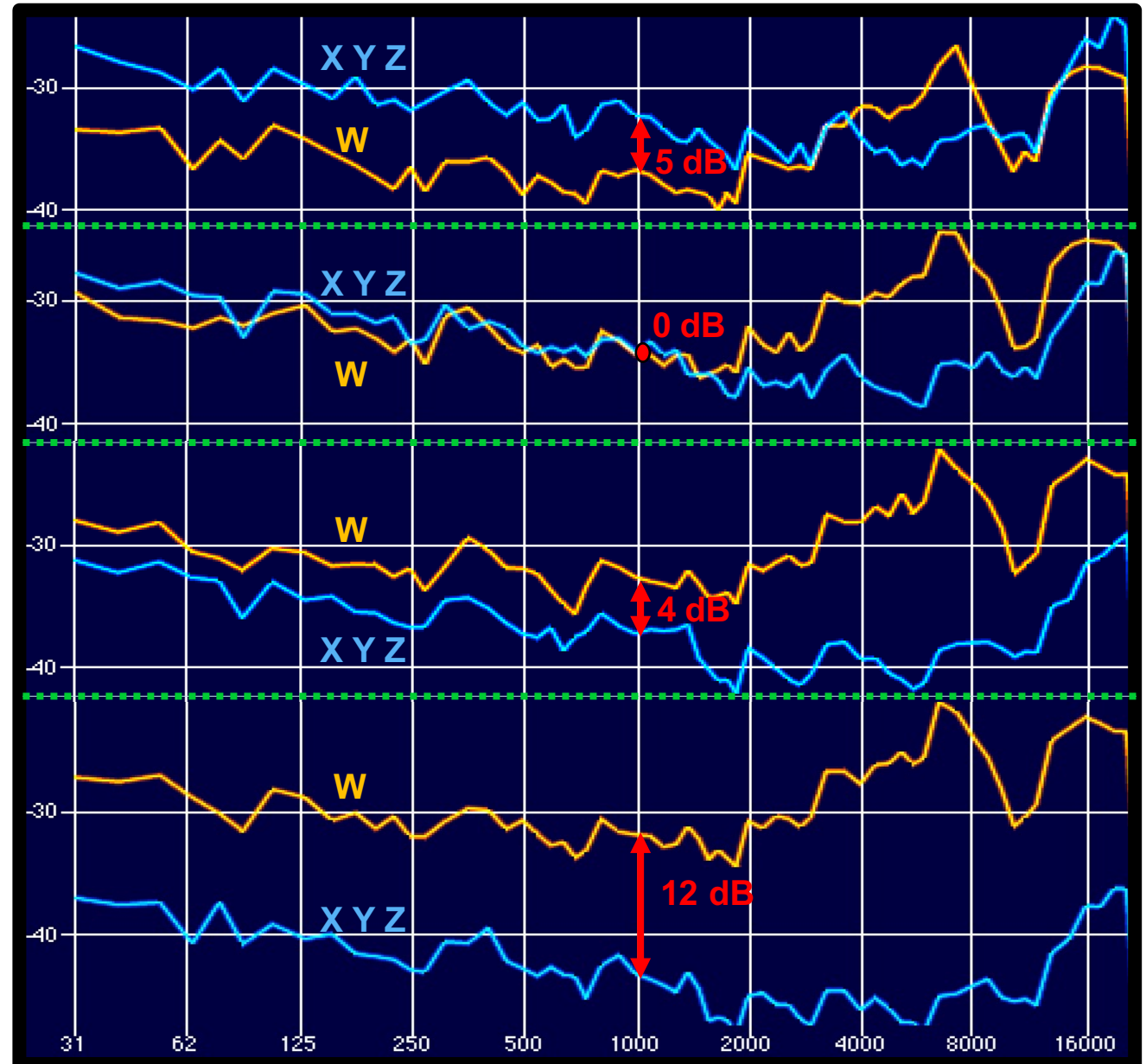
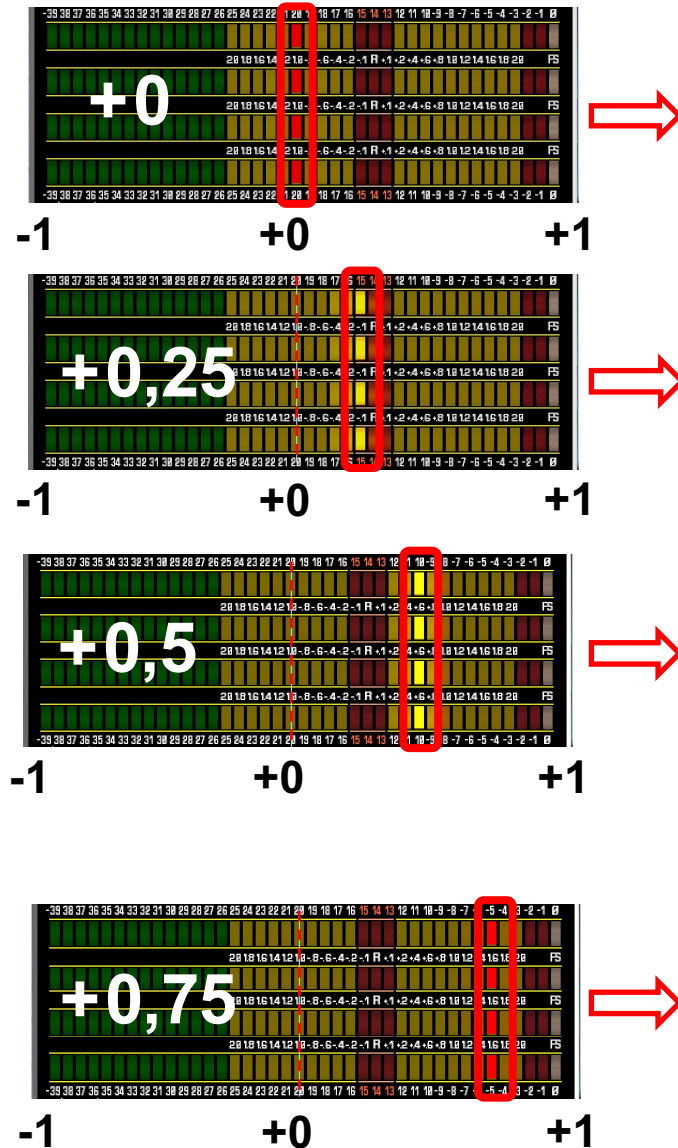
Date de création : 2013



IN : Format A

Bruit Rose Corrélié à :

OUT : Format B (FuMa)



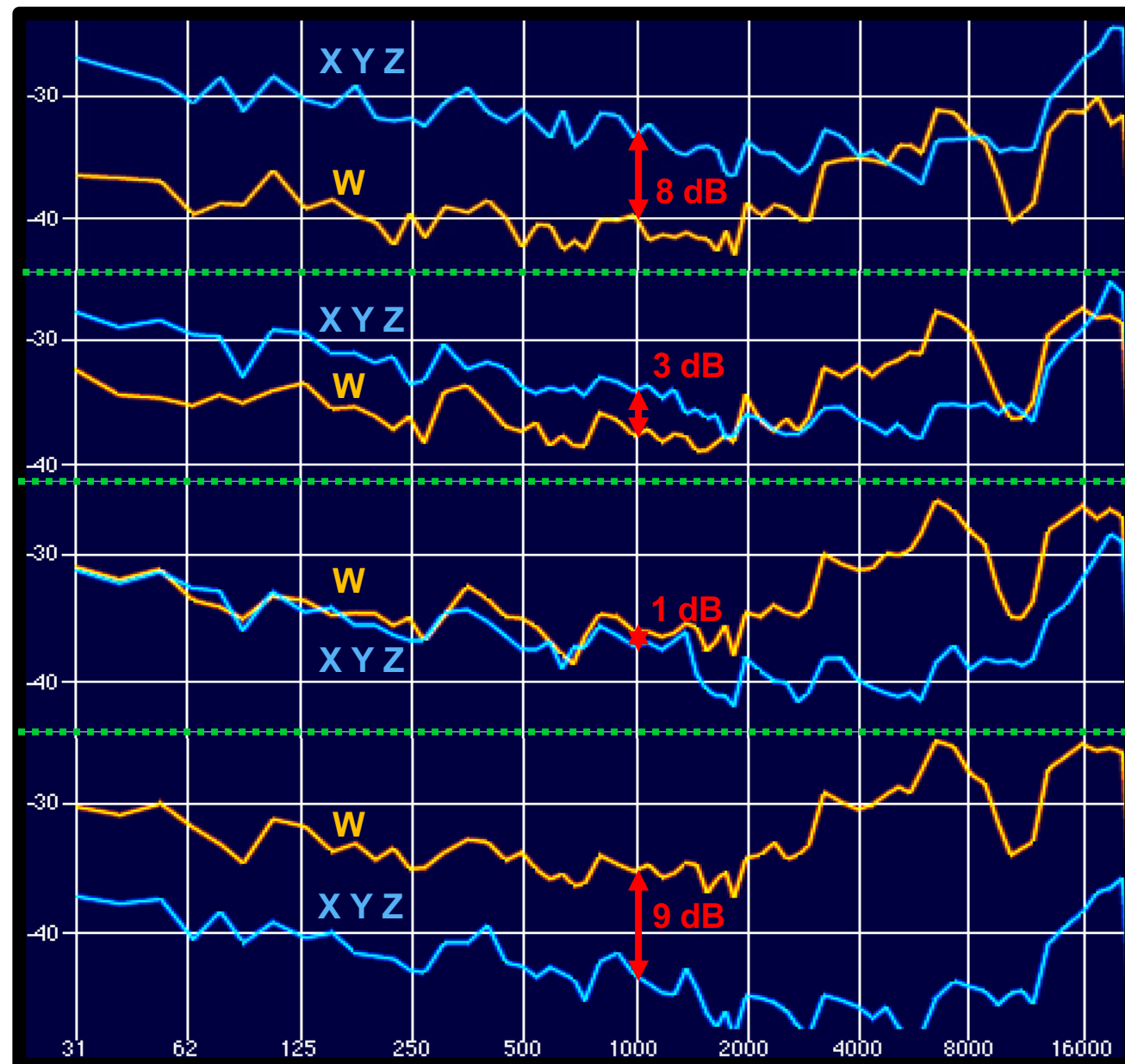
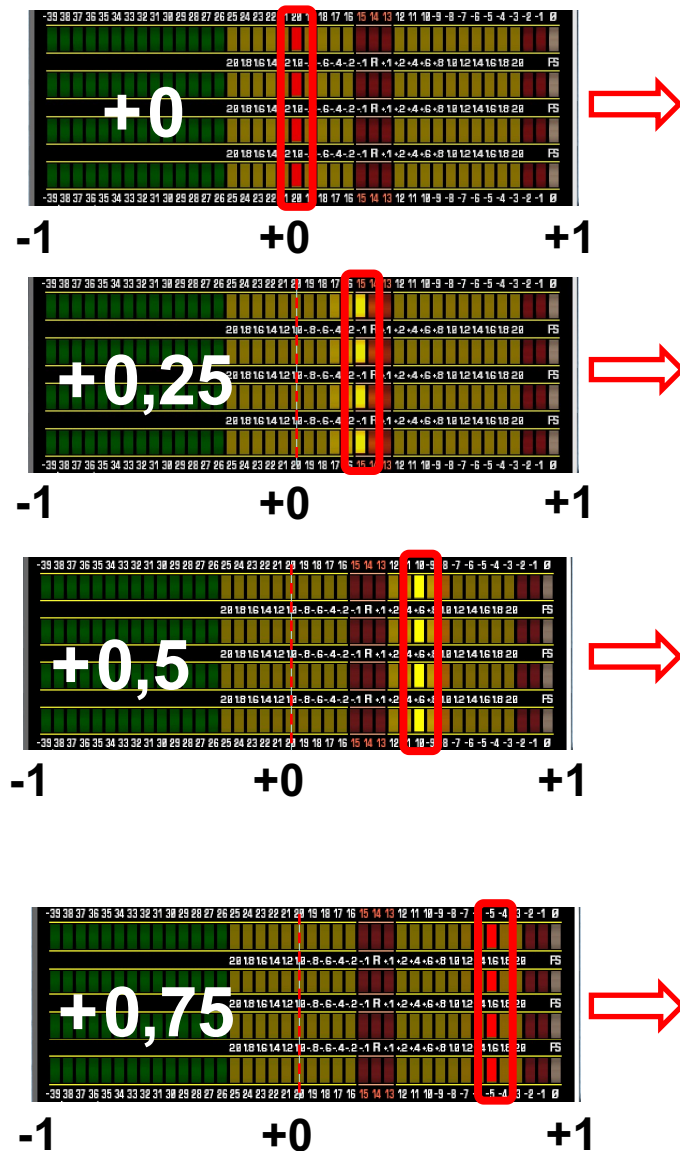
IN : Format A

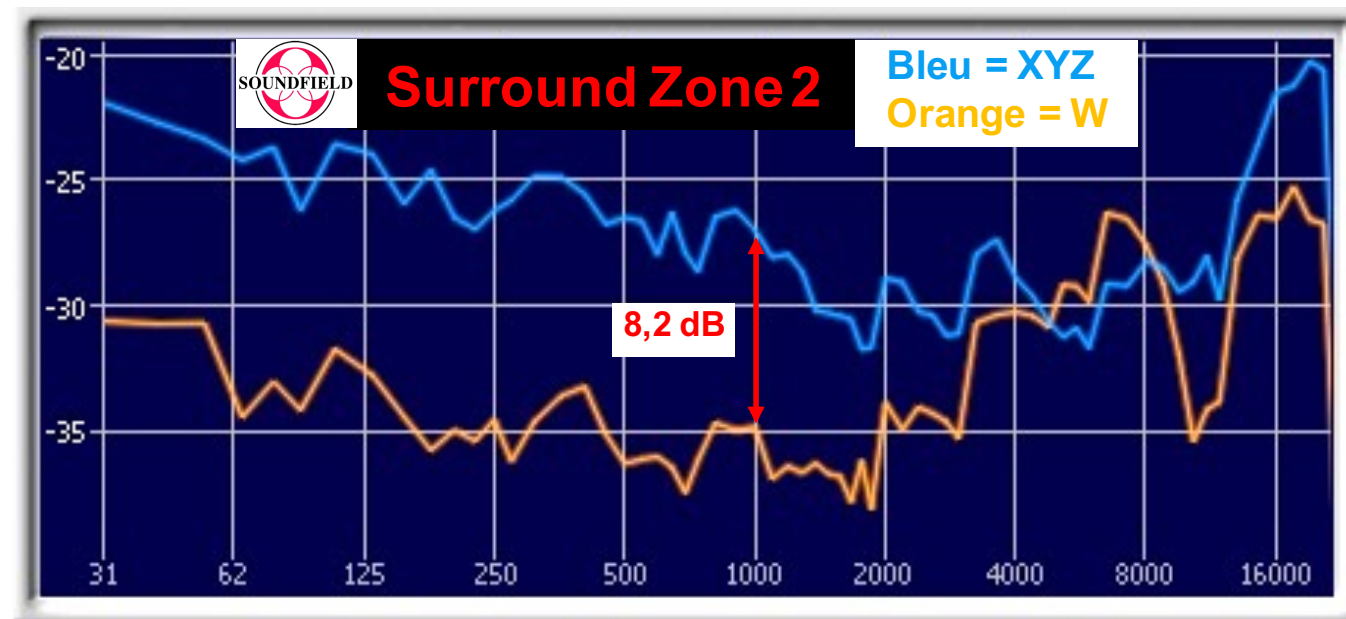


SURROUND ZONE 2
V: 1.0.0 64 bit VST
© 2013 SoundField TSL

OUT : Format B (FuMa)

Bruit Rose Corré à :





Plugin Soundfield

Input :

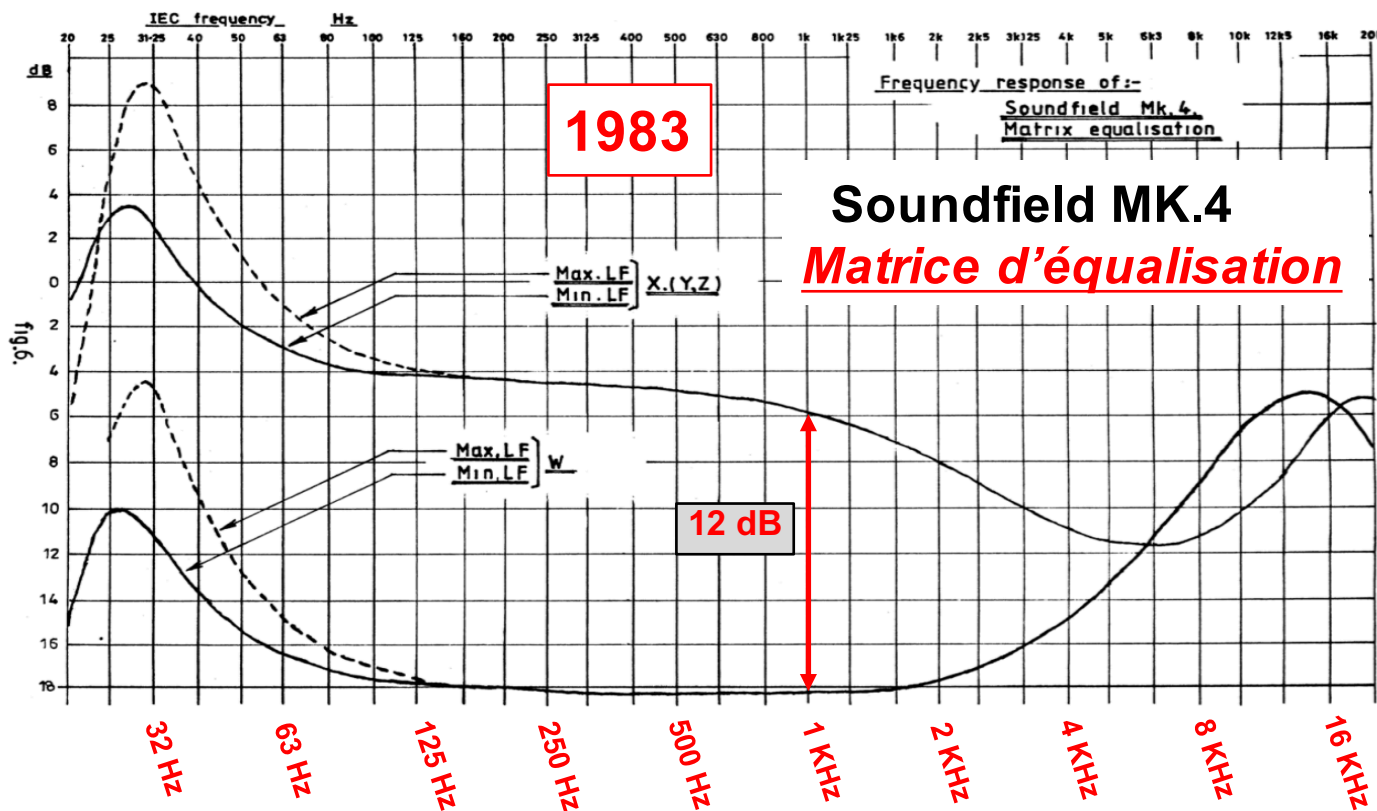
Bruit Rose sur 4 pistes

Dé-corrélé à **+0,0**

Output :

Format B (FuMa)

<http://www.soundfield.com/products/surroundzone2>



Micro CALREC

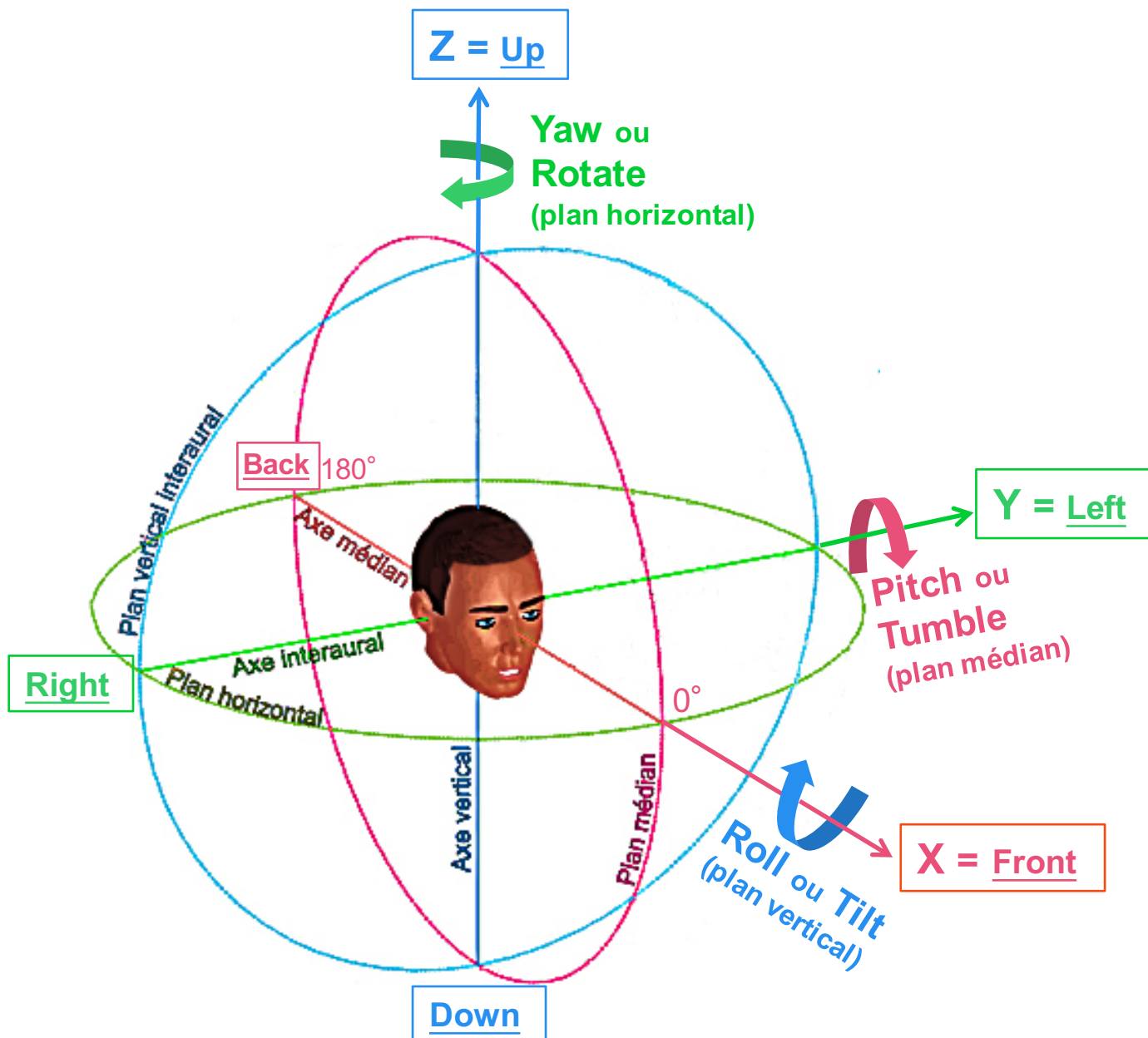
Soundfield MK.4

1983



https://www.lesonbinaural.fr/EDIT/DOCS/calrec_mk4_soundfield_microphone.PDF

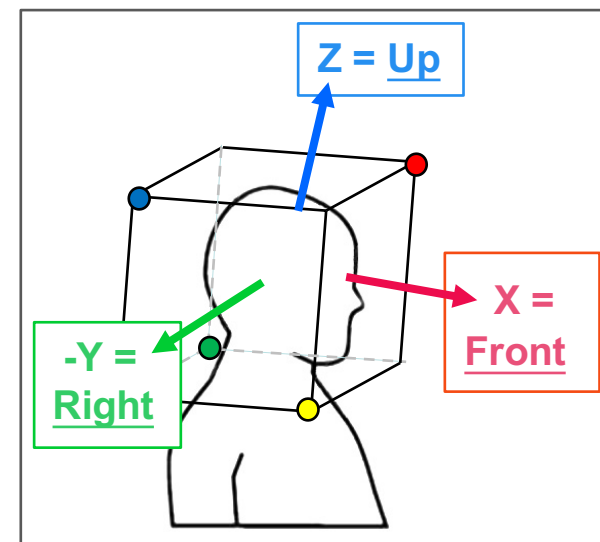
Rotation Ambisonic **3D**



Les 3 Plans :

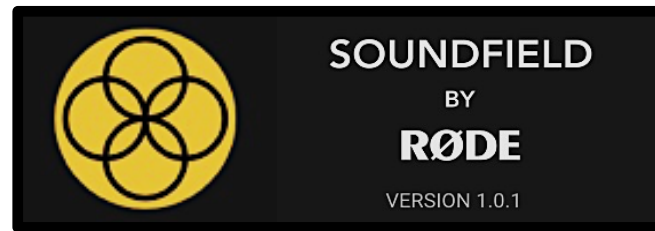
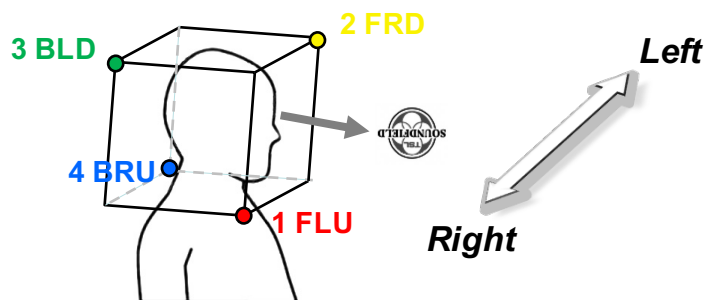
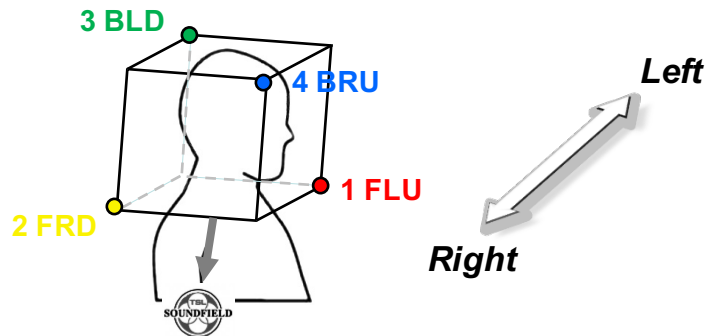
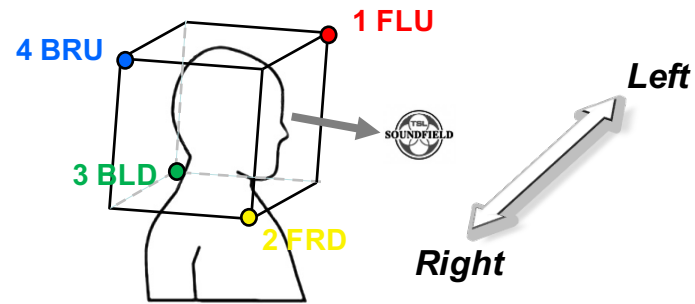
1. **Plan médian :**
Pitch ou Tumble
2. **Plan horizontal ou azimuthal :**
Yaw ou Rotate
3. **Plan vertical ou interaural :**
Roll ou Tilt

Représentation des capsules par rapport aux axes XYZ...

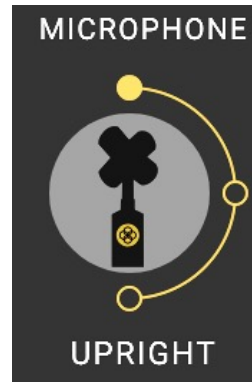


V 1.0.1

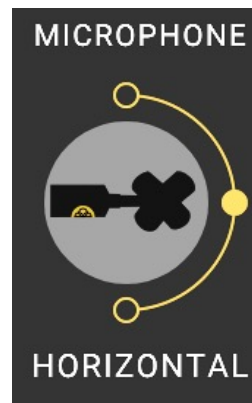
FORMAT A



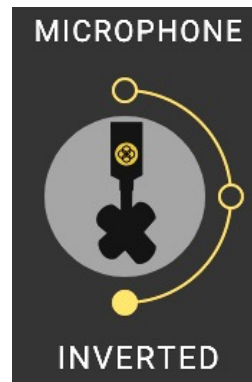
Matrîçages : FORMAT B



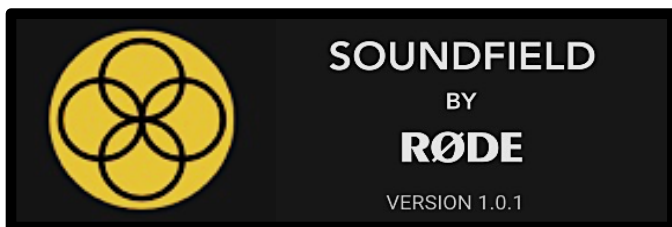
$$\begin{aligned} W &= \text{FLU} + \text{FRD} + \text{BLD} + \text{BRU} \\ X &= \text{FLU} + \text{FRD} - (\text{BLD} + \text{BRU}) \\ Y &= \text{FLU} + \text{BLD} - (\text{FRD} + \text{BRU}) \\ Z &= \text{FLU} + \text{BRU} - (\text{FRD} + \text{BLD}) \end{aligned}$$



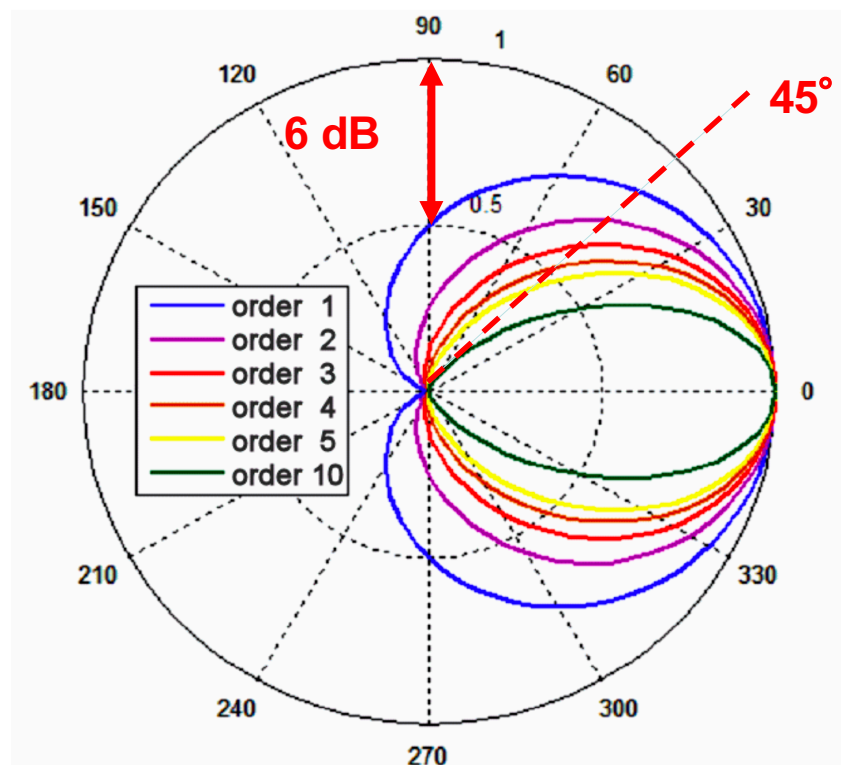
$$\begin{aligned} W &= \text{FLU} + \text{FRD} + \text{BLD} + \text{BRU} \\ X &= \text{FLU} + \text{BRU} - (\text{FRD} + \text{BLD}) \\ Y &= \text{FLU} + \text{BLD} - (\text{FRD} + \text{BRU}) \\ Z &= \text{BLD} + \text{BRU} - (\text{FLU} + \text{FRD}) \end{aligned}$$



$$\begin{aligned} W &= \text{FLU} + \text{FRD} + \text{BLD} + \text{BRU} \\ X &= \text{FLU} + \text{FRD} - (\text{BLD} + \text{BRU}) \\ Y &= \text{BRU} + \text{FRD} - (\text{BLD} + \text{FLU}) \\ Z &= \text{BLD} + \text{FRD} - (\text{FLU} + \text{BRU}) \end{aligned}$$



<https://fr.ode.com/soundfieldplugin>



Au-delà des cardioïdes...

Doc RØDE

V 1.0.1

Doc RØDE

Avoir la possibilité de changer le motif polaire des microphones virtuels en post-production est une caractéristique bien connue de l'ambisonique permettant à l'utilisateur de tout créer, de l'omni au cardioïde en passant par les schémas fig-8.

Le nouveau SoundField de RØDE va au-delà, car il permet pour la première fois de créer des motifs de type « **Fusil de chasse** » en utilisant les récents développements de la technologie de formation de faisceaux. Cela offre une nouvelle dimension dans la mise en forme et le contrôle du son.

➡ **Interpolation aux ordres supérieurs (ordre 2 ou 3) ?**

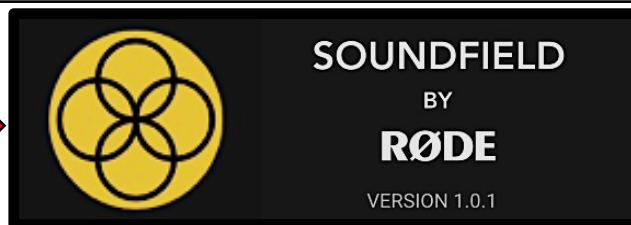
Le passage de :



➡ du gain de + 5 dB !!

IN : NT-SF1 (Format A)

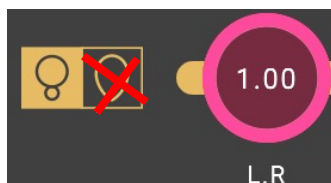
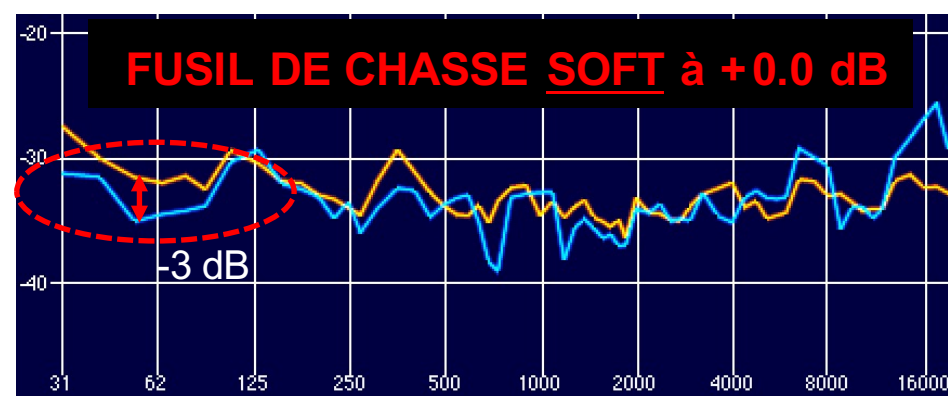
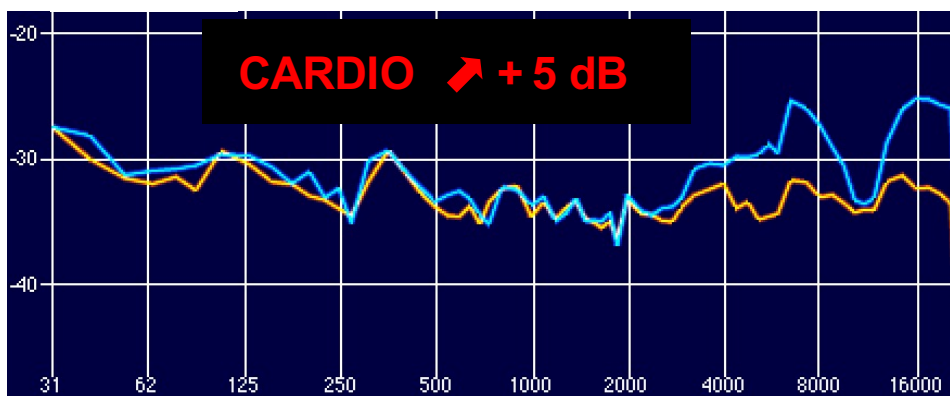
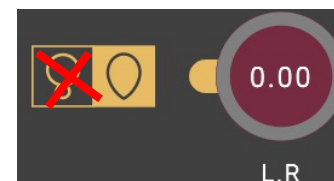
Bruit Rose sur 4 pistes
Corrélé à **+0,25**



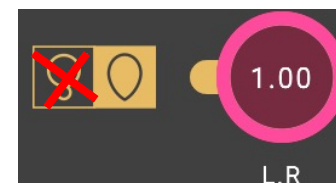
OUT : 5.1

Bleu = 5.1 à Gauche L
Orange = Bruit Rose IN

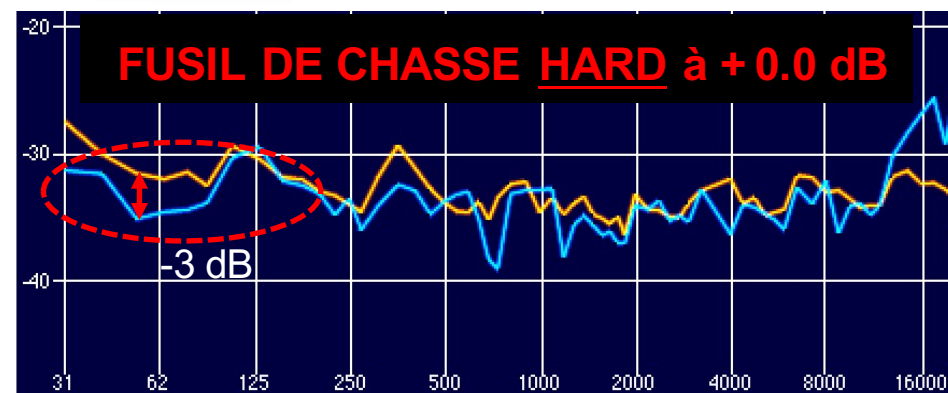
V 1.0.1



↑
≠ 0 dB
↓



↑
≠ 0 dB
↓



IN : NT-SF1 (Format A)

Bruit Rose sur 4 pistes

Corrélé à **+0,5**



SOUNDFIELD

BY

RØDE

VERSION 1.0.1

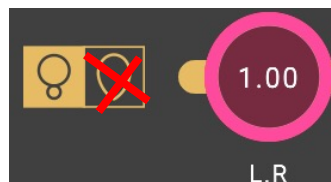
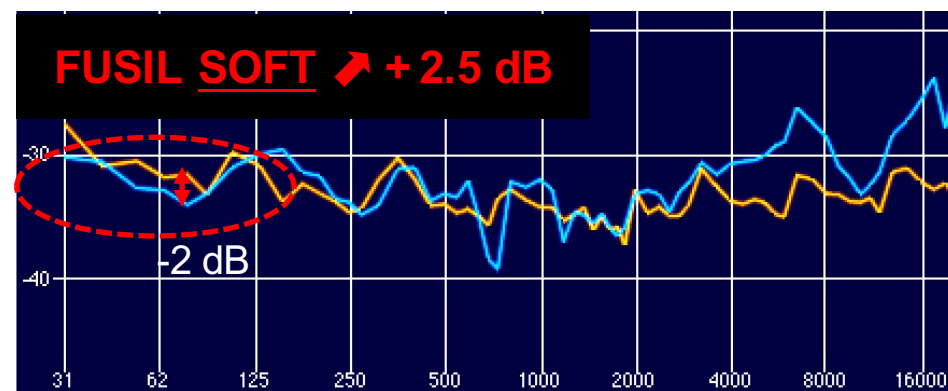
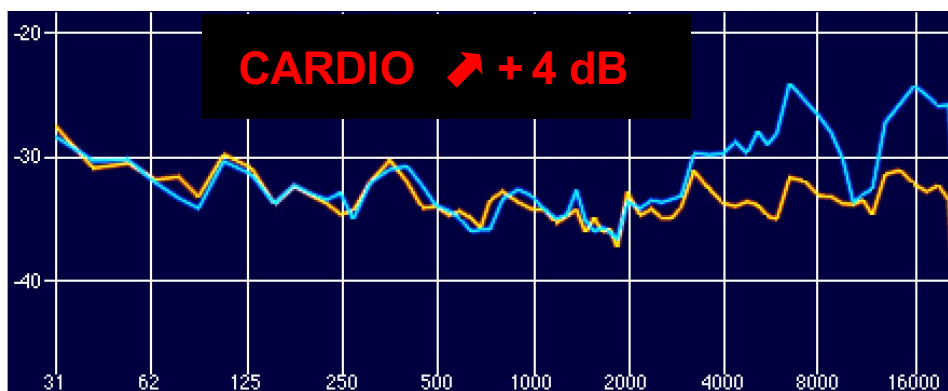
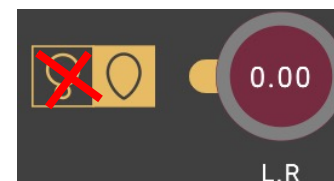
OUT : 5.1

Bleu = 5.1 à Gauche L

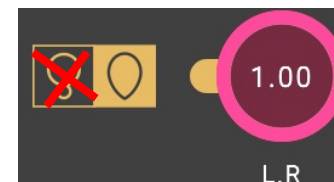
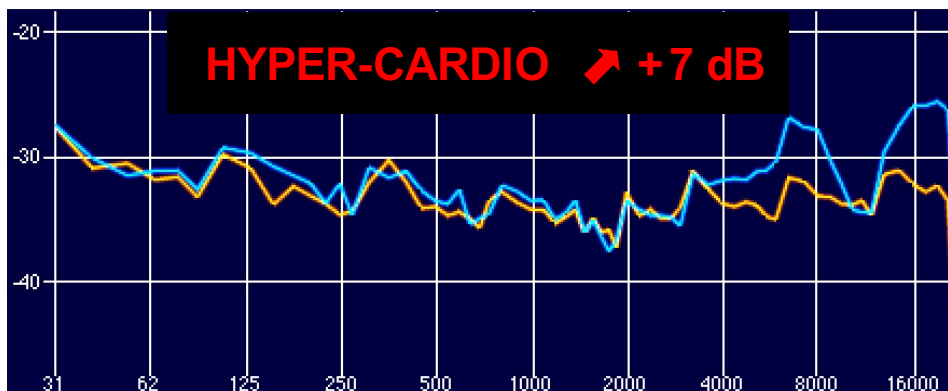
Orange = Bruit Rose IN



V 1.0.1



↗
≠ 3 dB
↘



↗
≠ 0,5 dB
↘



IN : NT-SF1 (Format A)

Bruit Rose sur 4 pistes
Corrélé à **+0,75**

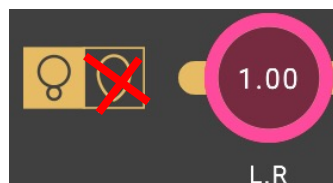
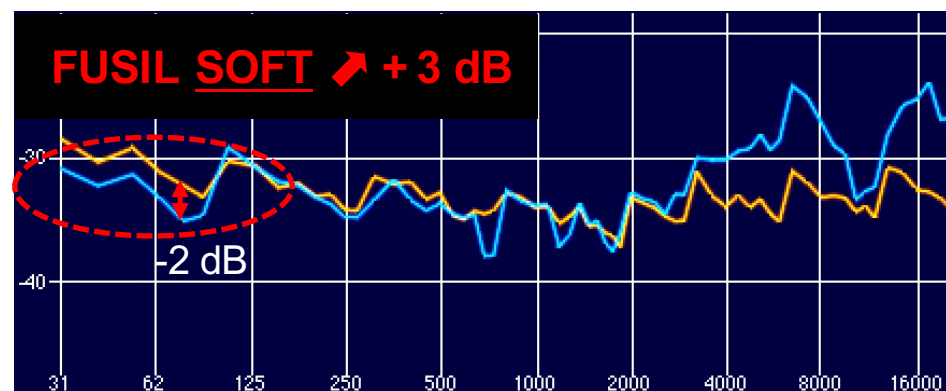
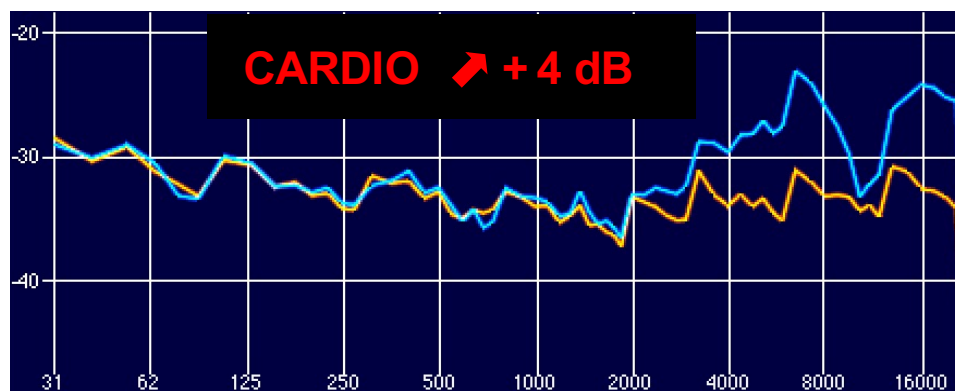
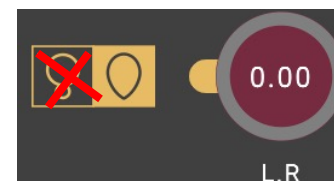


SOUNDFIELD
BY
RØDE
VERSION 1.0.1

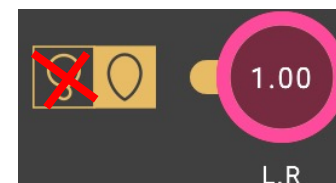
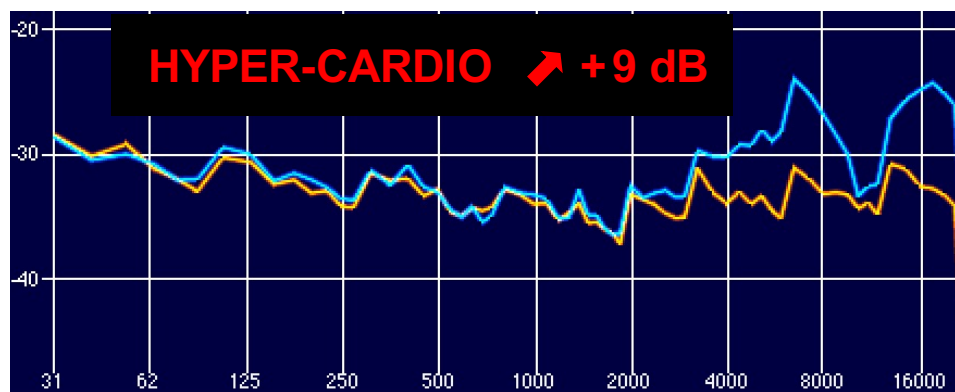
OUT : 5.1

Bleu = 5.1 à Gauche L
Orange = Bruit Rose IN

V 1.0.1



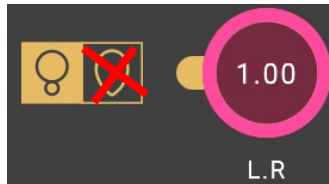
↑
≠ 5 dB
↓



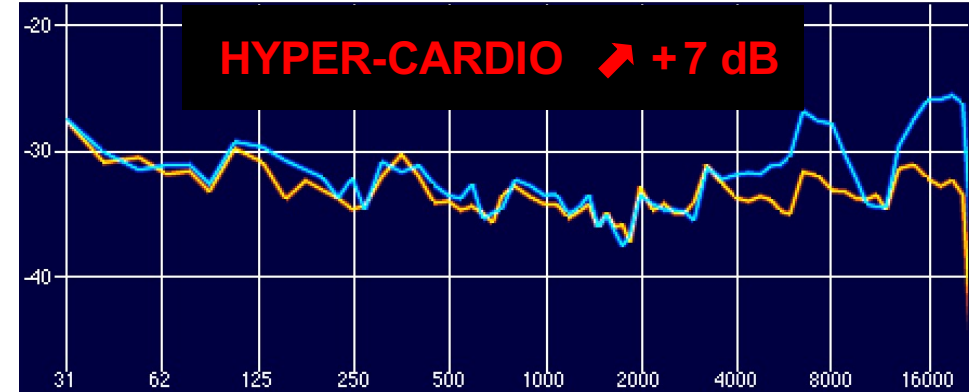
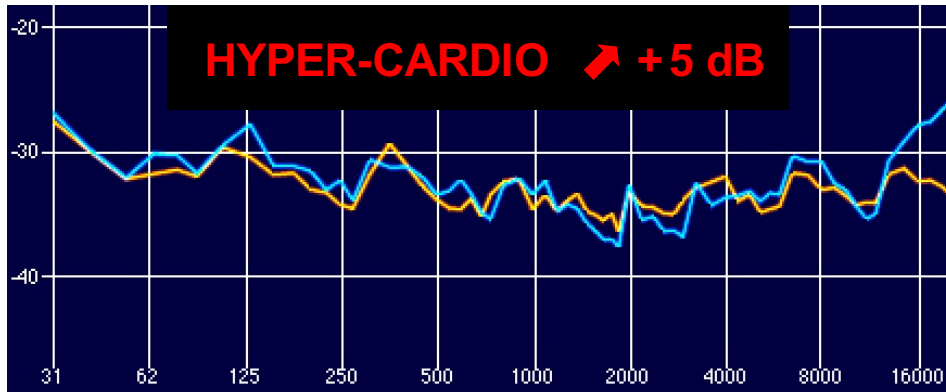
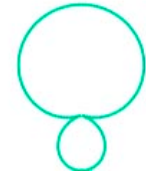
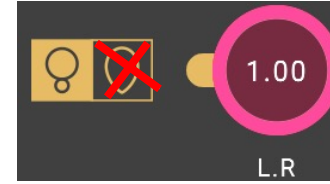
↑
≠ 4 dB
↓



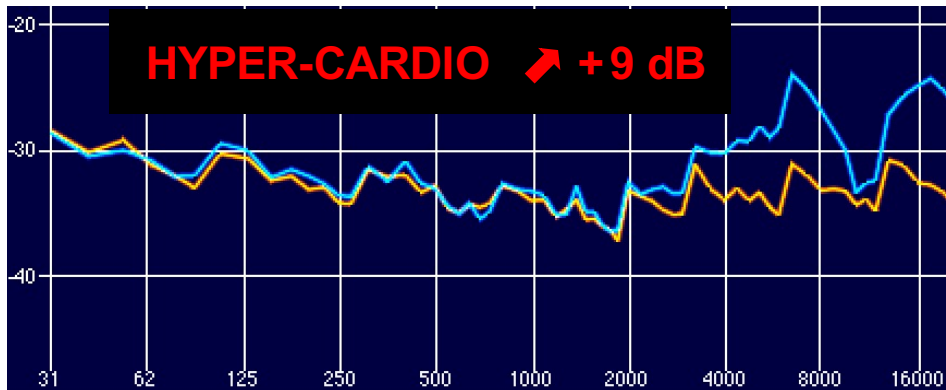
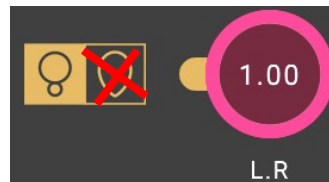
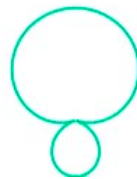
IN : Bruit Rose sur 4 pistes
Corrélé à **+0,25**



IN : Bruit Rose sur 4 pistes
Corrélé à **+0,5**



IN : Bruit Rose sur 4 pistes
Corrélé à **+0,75**



Bleu = 5.1 à Gauche L
Orange = Bruit Rose IN

**Variation du niveau sonore ?
en fonction de la corrélation**

La corrélation ↗ :: Le niveau ↘
(de +0,25 à +0,75) (de -4 à -5 dB)

IN : NT-SF1 (Format A)

Bruit Rose sur 4 pistes

Corrélé à **+0,75**



V 1.0.1

OUT : 5.1

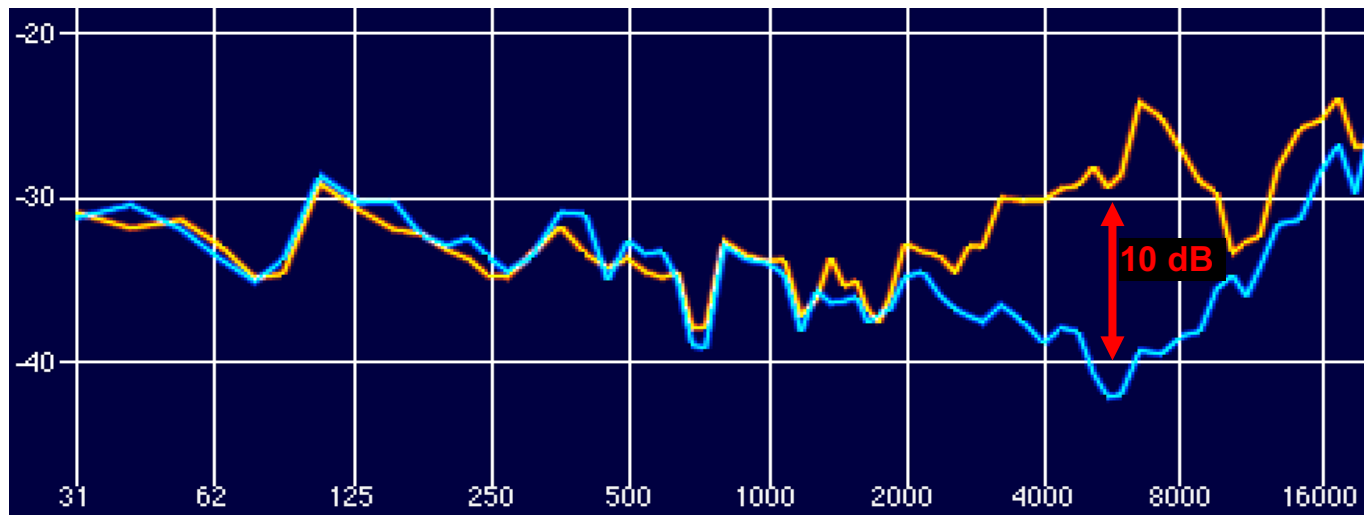
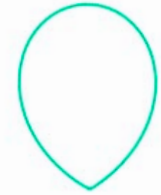
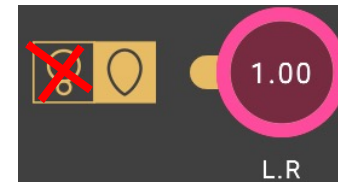
Orange

FUSIL SOFT ↗ +3 dB

≠ 4 dB

Bleu

FUSIL HARD ↗ +7.0 dB



*Utiliser la fonction **LINK !***



L.R

C

LS.RS

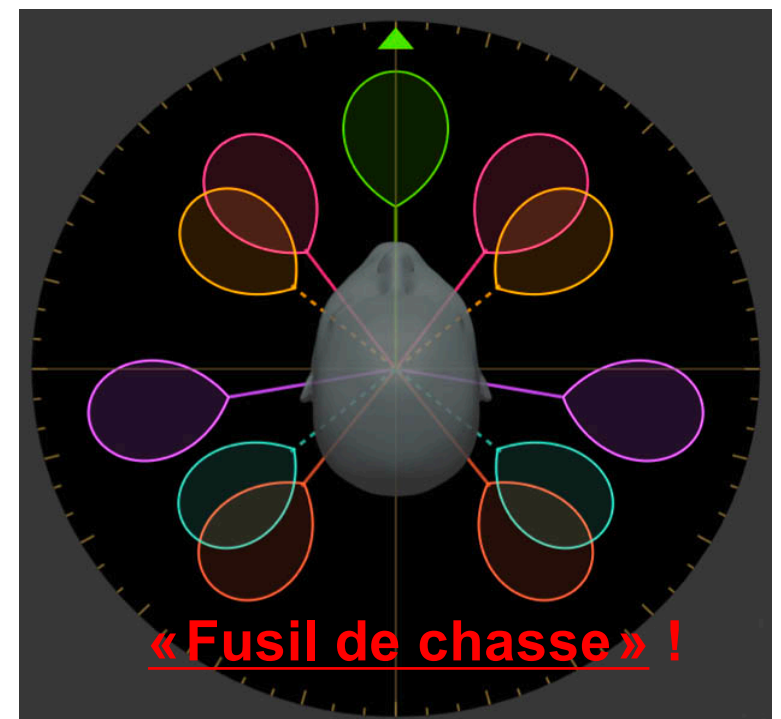
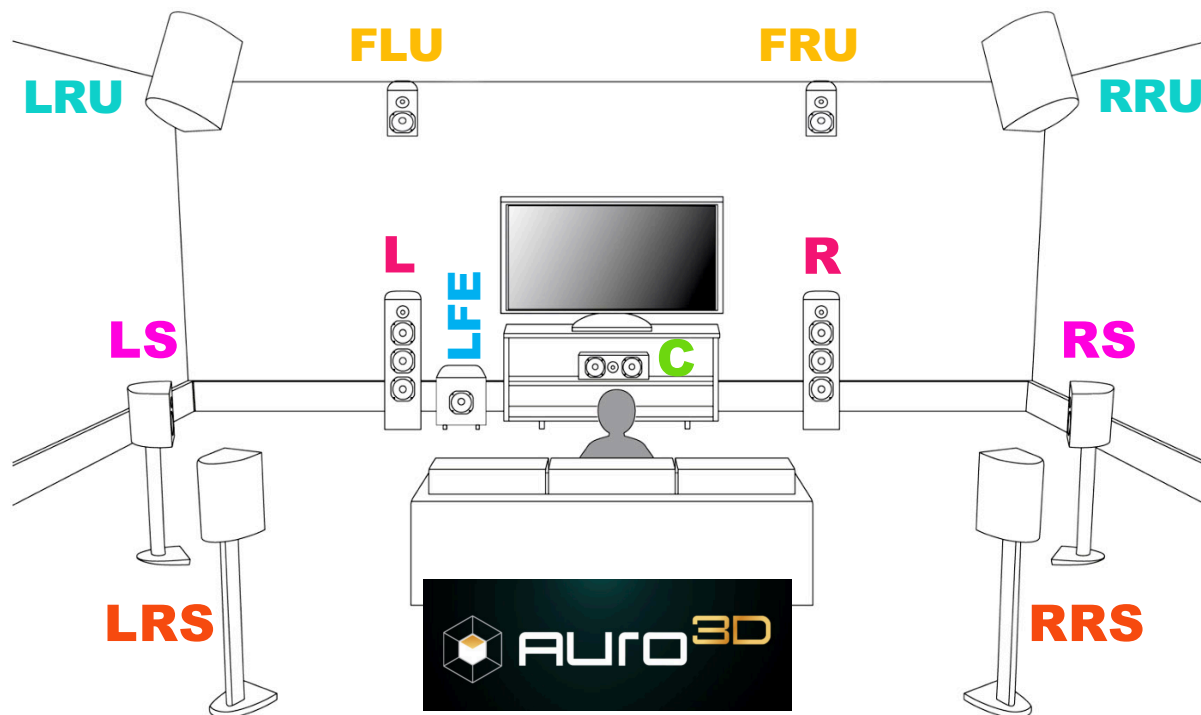
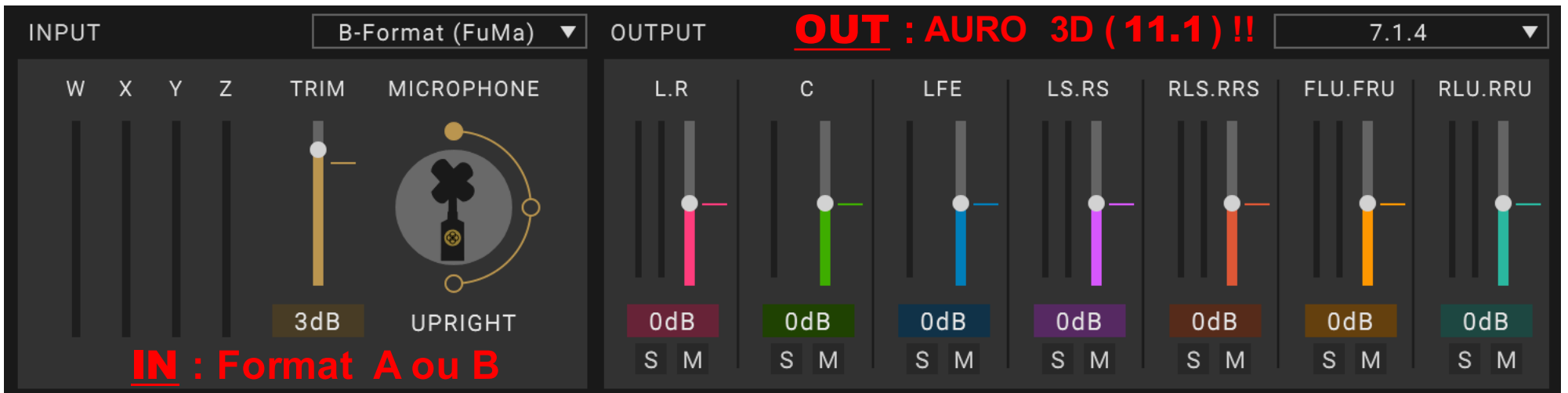
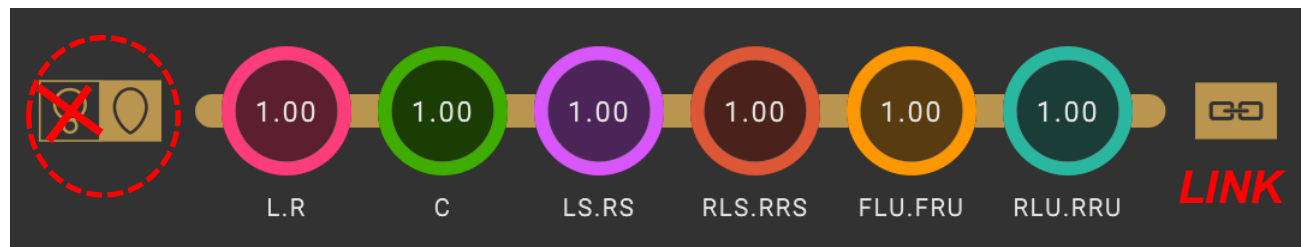
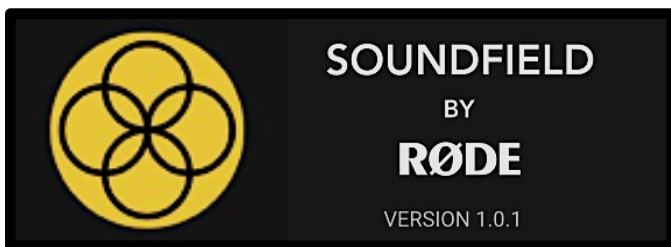
RLS.RRS

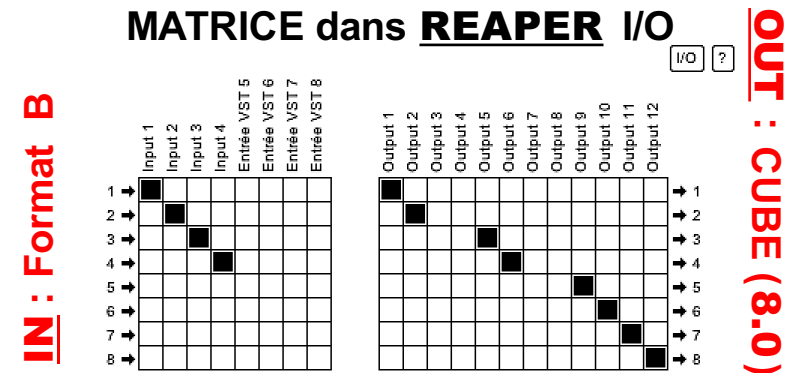
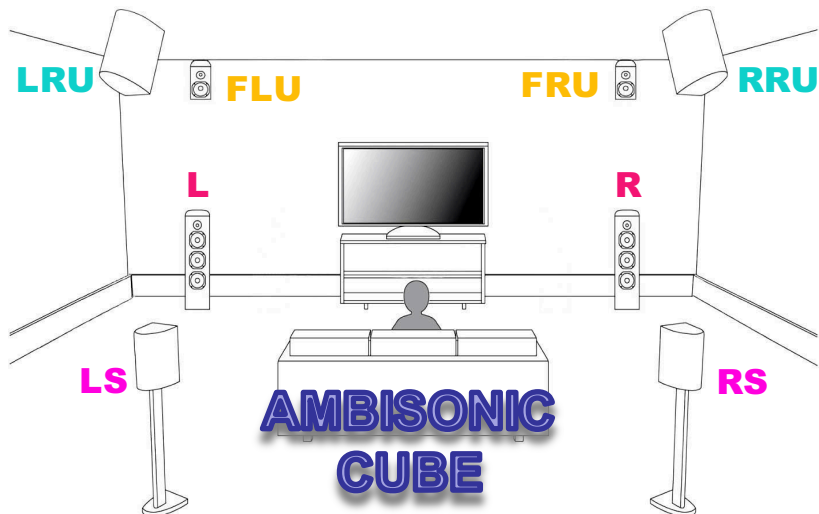
FLU.FRU

RLU.RRU

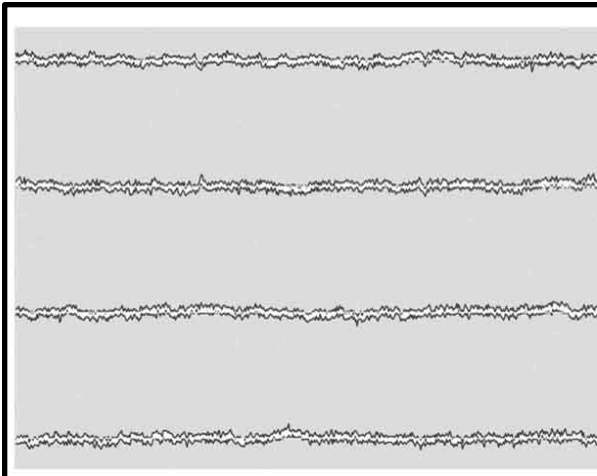


LINK





Annexes :



Bruit Rose sur 4 Pistes

Bruit Rose sur 4 pistes destiné au Multicanal en Quad et à l'Ambisonique (courbe de réponse, équilibre, filtre...)

Dé-corrélation + 0,0 : de 0 s à 40 s
Corrélation + 0,25 : de 1 mn à 1 mn 40 s
Corrélation + 0,5 : de 2 mn à 2 mn 40 s
Corrélation + 0,75 : de 3 mn à 3 mn 40 s
Corrélation + 1,0 : de 4 mn à 4 mn 40 s

Attention au niveau -12 dBFS, coupe bas à 30 Hz.

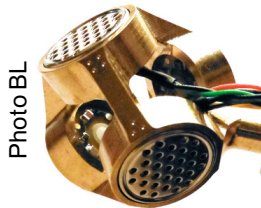
4 min 40 sec

En .WAV

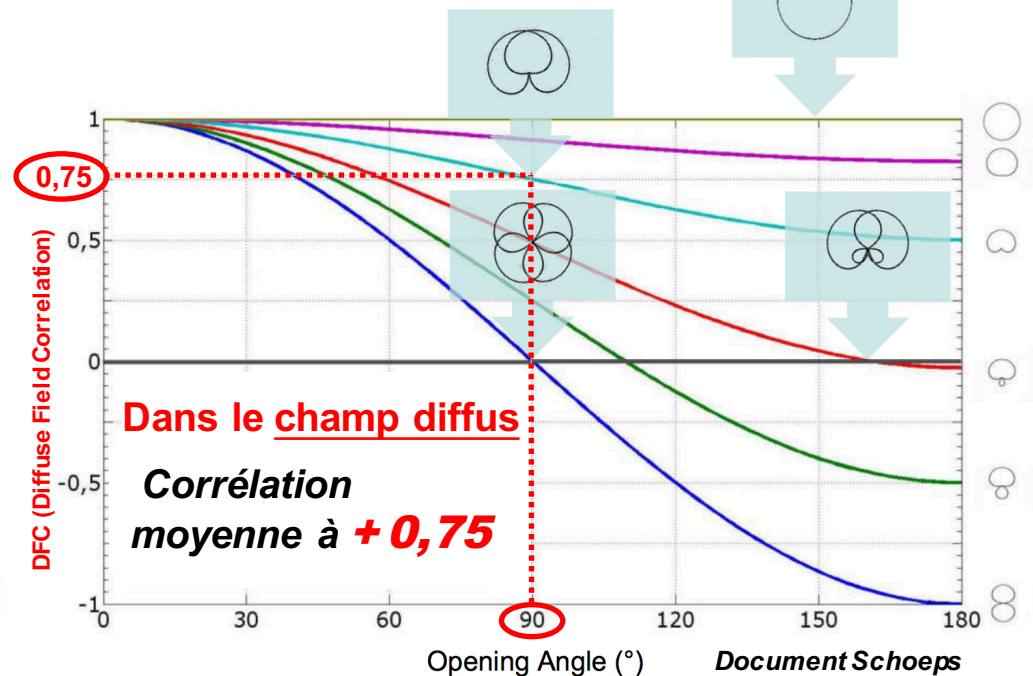
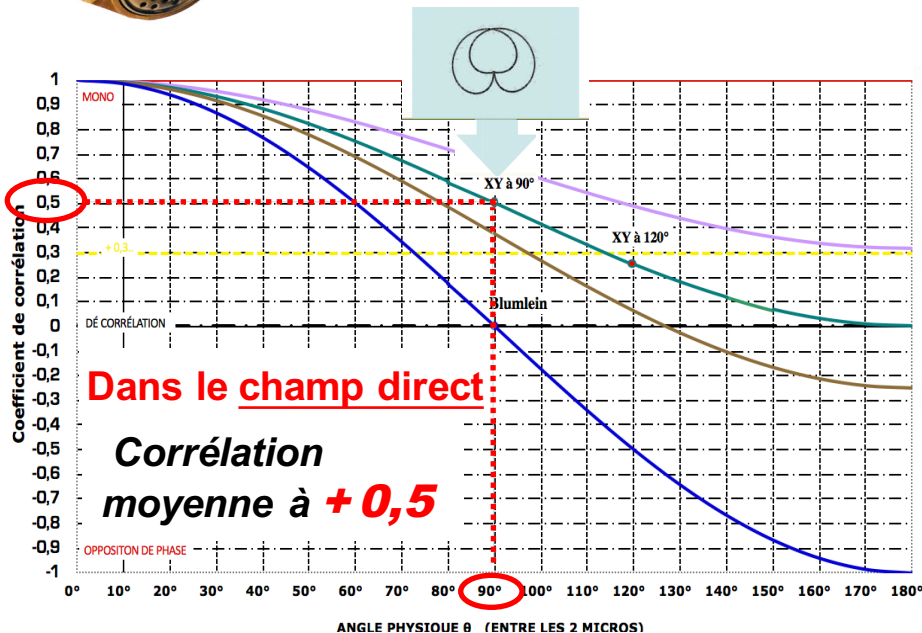
24 Bit / 48 KHz



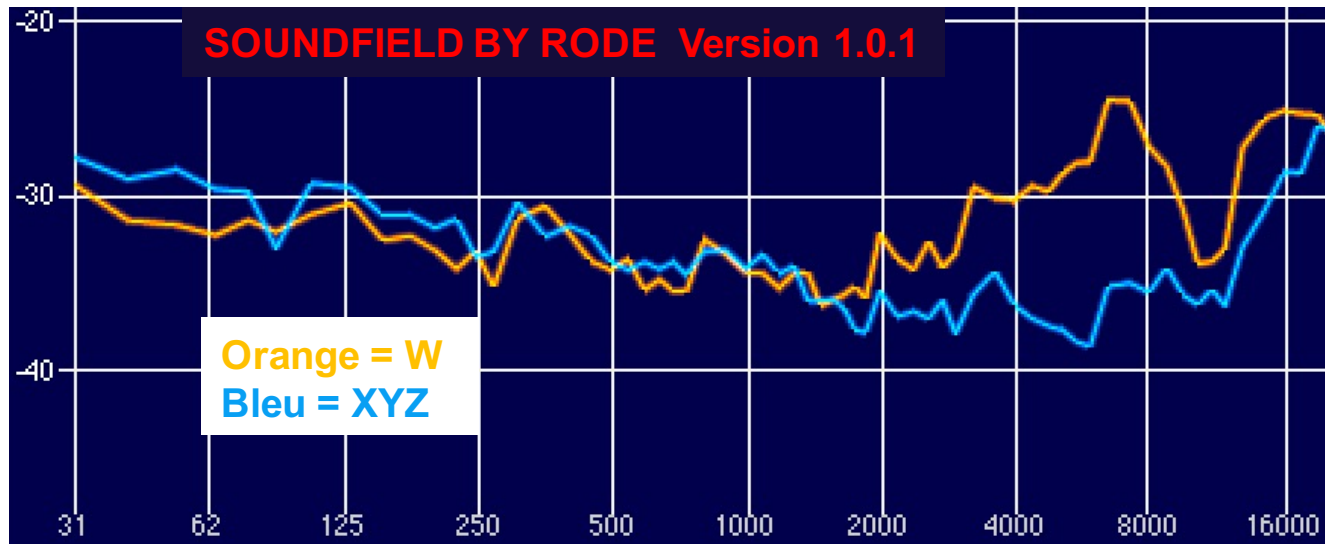
Télécharger



Tétraèdre : 4 capsules cardioïdes à 90° ...



Comparaison entre les Plugins : Soundfield by RØDE et Sennheiser Ambéo® VR mic



Input :

V 1.0.1

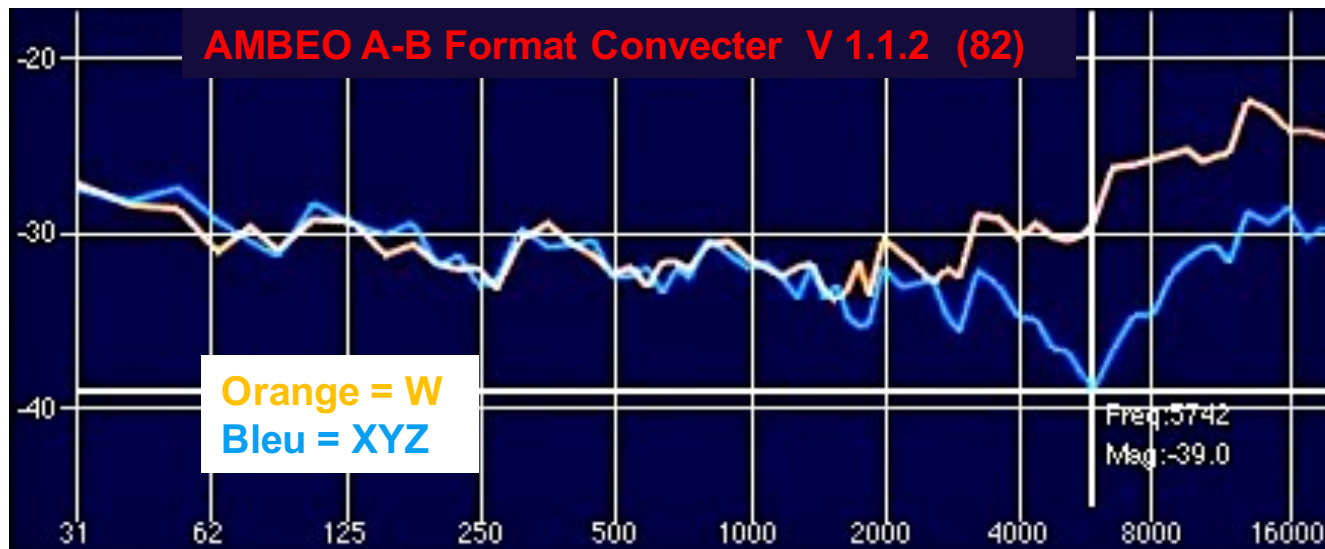
Bruit Rose sur 4 pistes

Corrélé à **+0,25**

Output :

Format B (FuMa)

Date de création : 15 /09 /2018



Input :

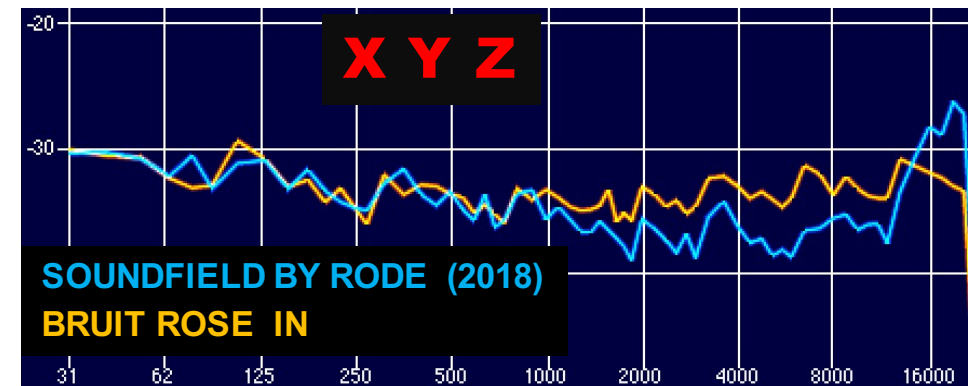
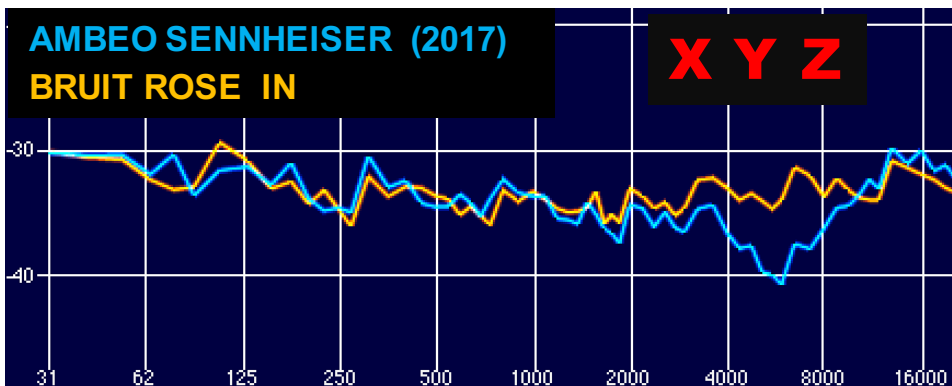
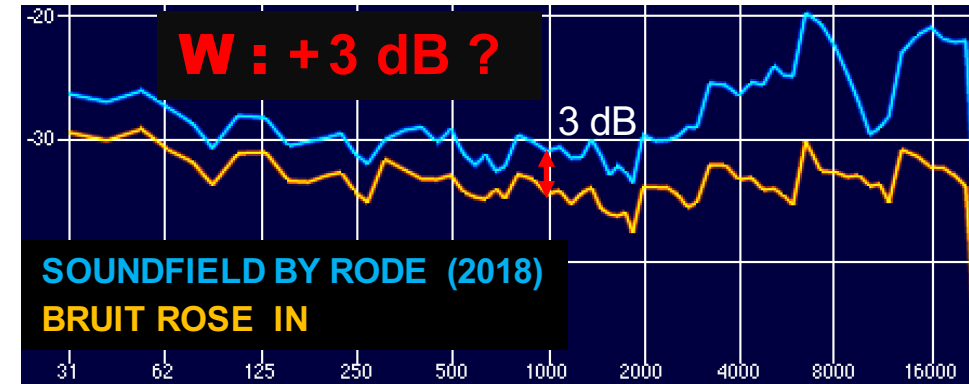
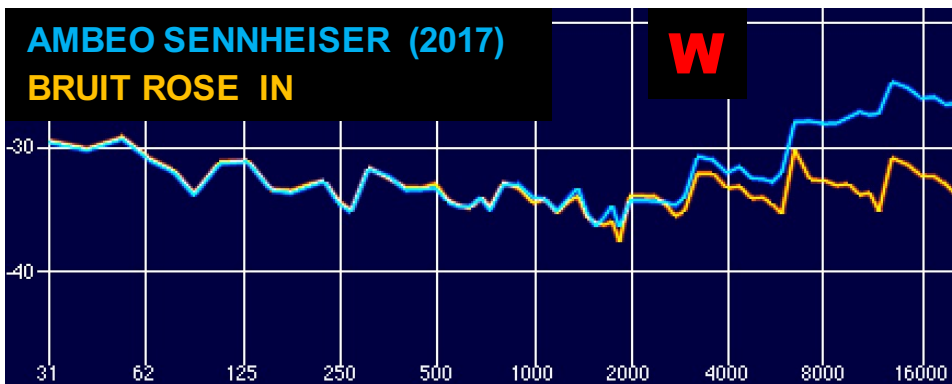
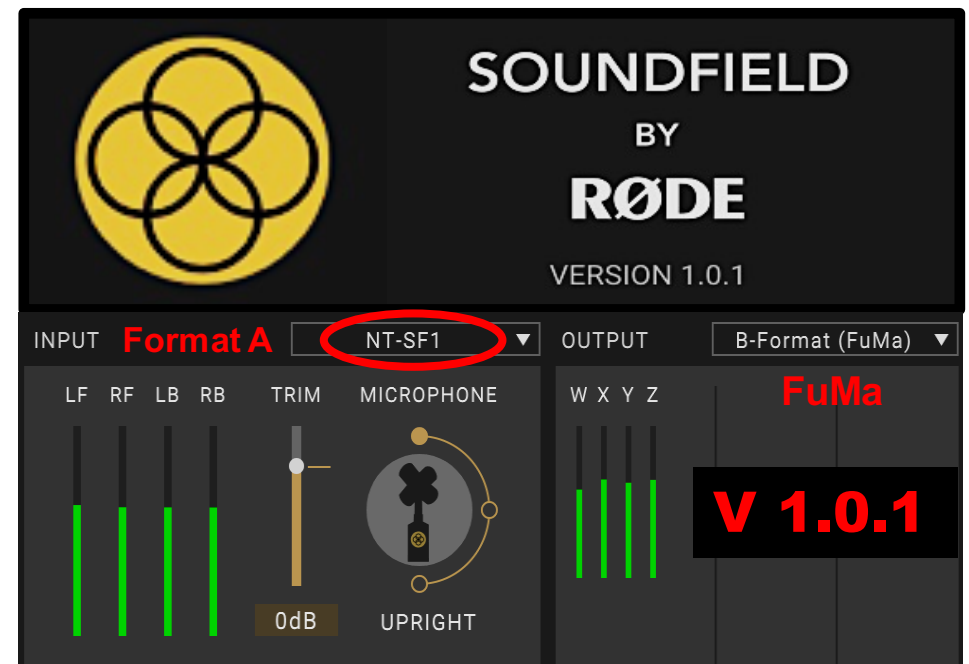
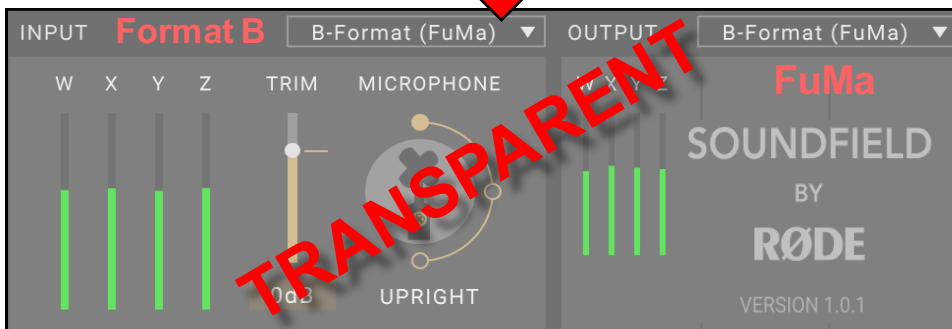
Bruit Rose sur 4 pistes

Corrélé à **+0,4**

Output :

Format B (FuMa)

Date de création : 15 /05 /2017





AMBISONICS CORRECTION FILTER

ON OFF

LOW CUT FILTER



IN : Format A

Bruit Rose sur 4 pistes

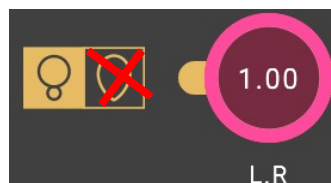
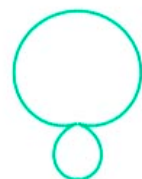
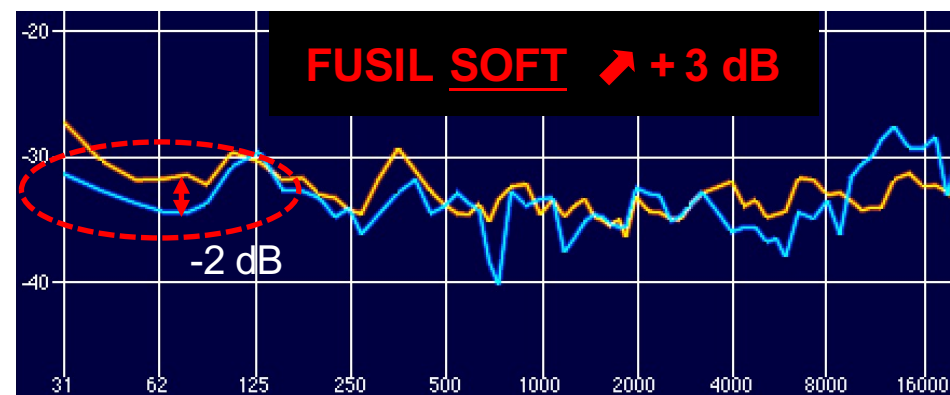
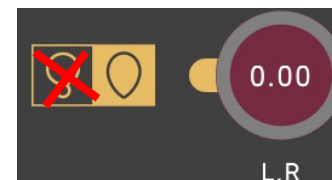
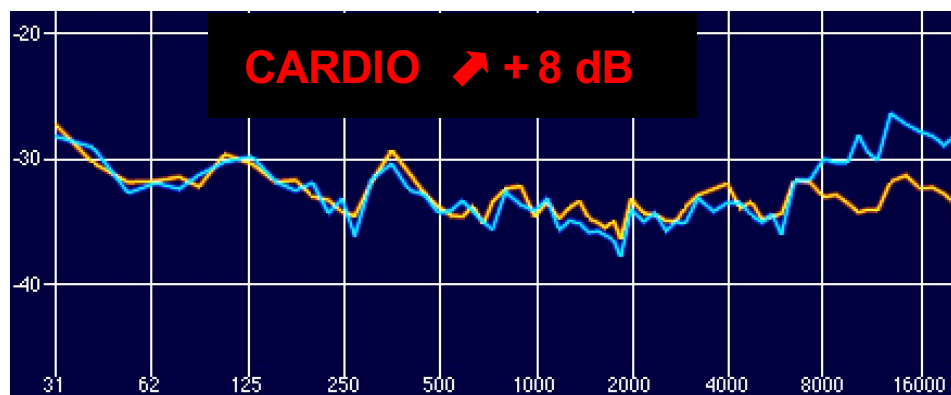
Corré à **+0,25**

OUT : Format B (FuMa)

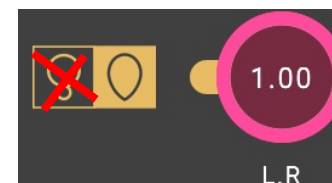


Bleu = 5.1 à Gauche L
Orange = Bruit Rose IN

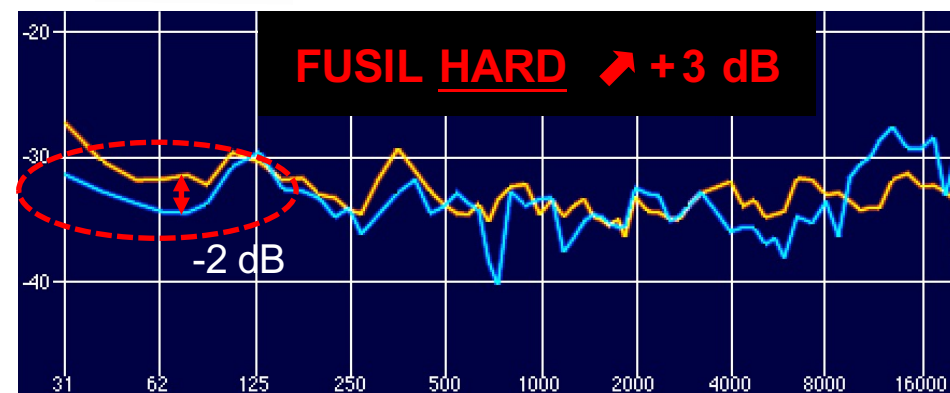
IN : Format B (Fuma) OUT : 5.1



≠ 0 dB



Identiques



IN : Format A

Bruit Rose sur 4 pistes

Corré à **+0,5**

OUT : Format B (FuMa)

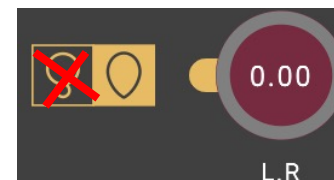
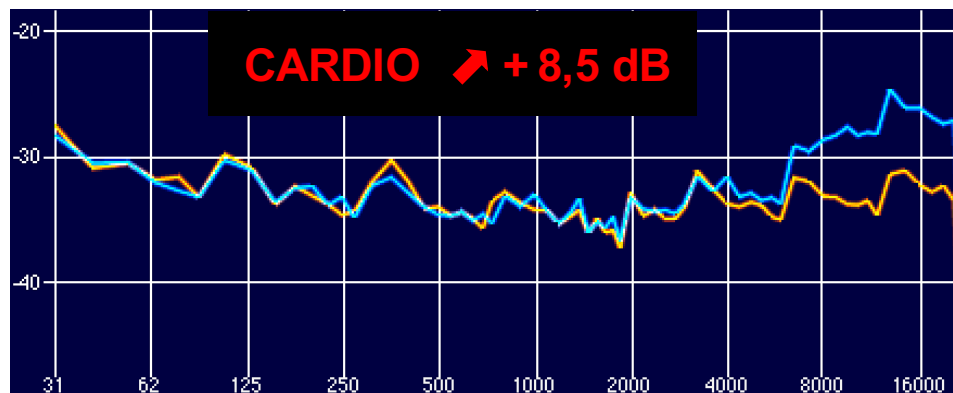


Bleu = 5.1 à Gauche L
Orange = Bruit Rose IN

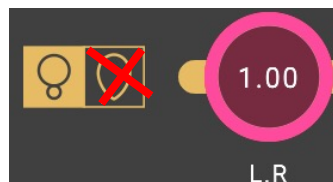
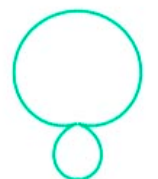
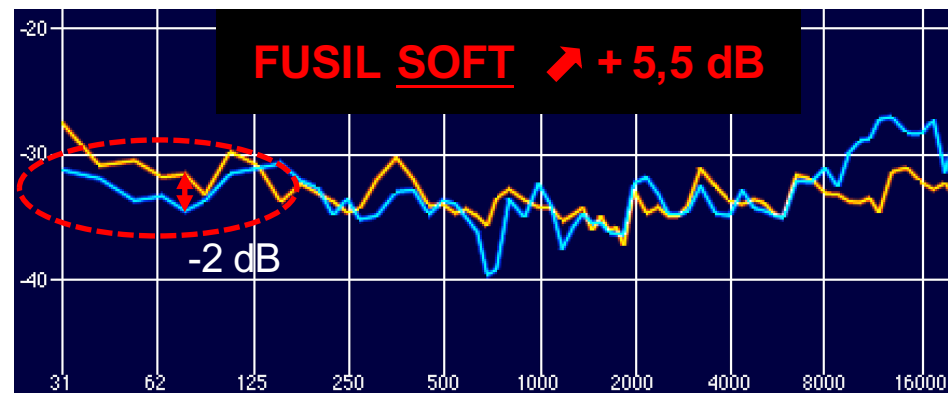
IN : Format B (Fuma) OUT : 5.1



L.R

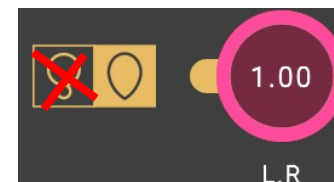


L.R



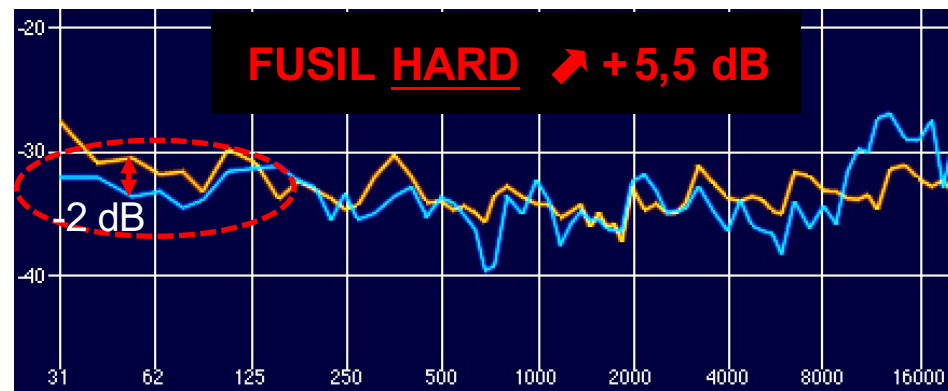
L.R

↑
≠ 1,5 dB
↓



L.R

↑
≠ 0 dB
↓



IN : Format A

Bruit Rose sur 4 pistes

Corrélé à **+0,75**

OUT : Format B (FuMa)



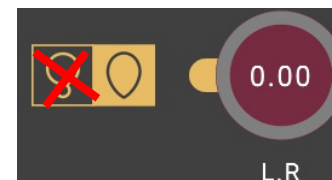
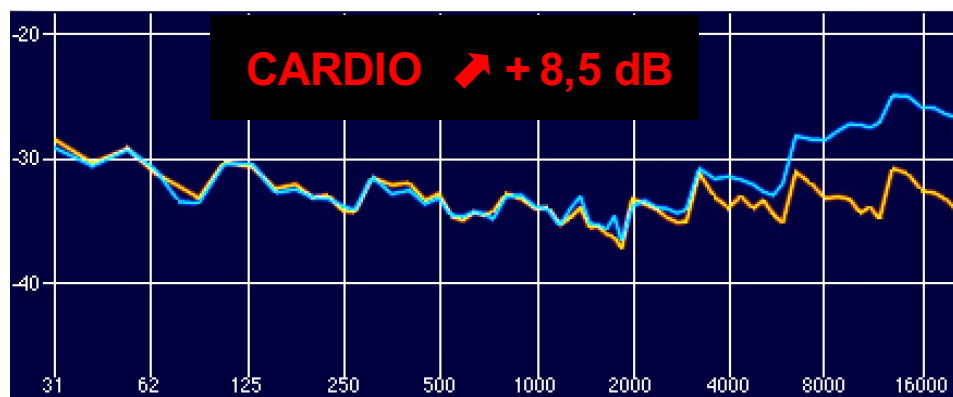
Bleu = 5.1 à Gauche L

Orange = Bruit Rose IN

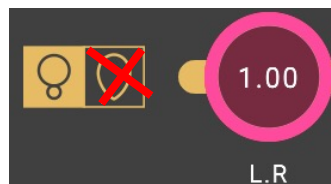
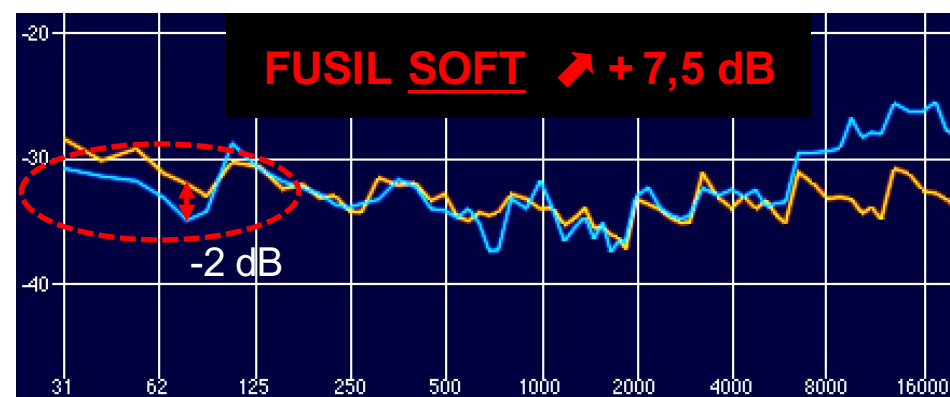
IN : Format B (Fuma) OUT : 5.1



L.R

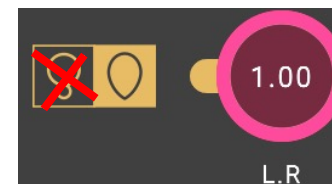


L.R



L.R

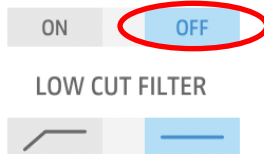
↗
≠ 4 dB
↘



L.R

↗
≠ 2,5 dB
↘





IN : Format A

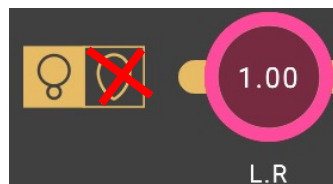
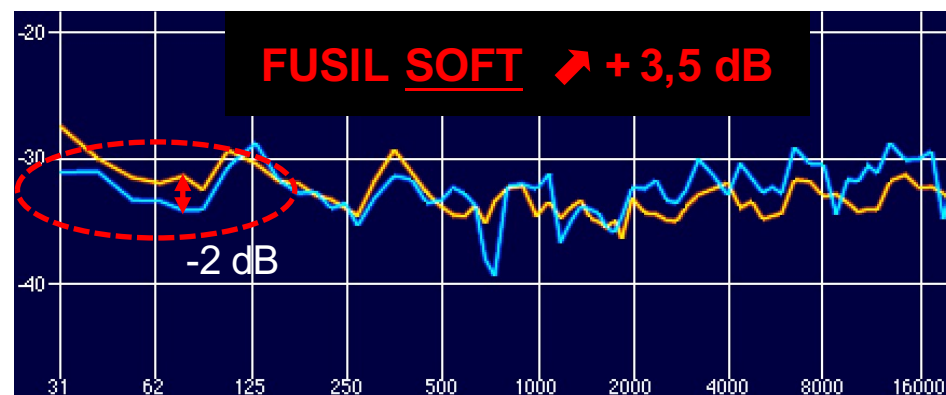
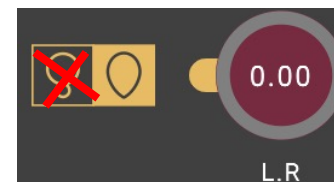
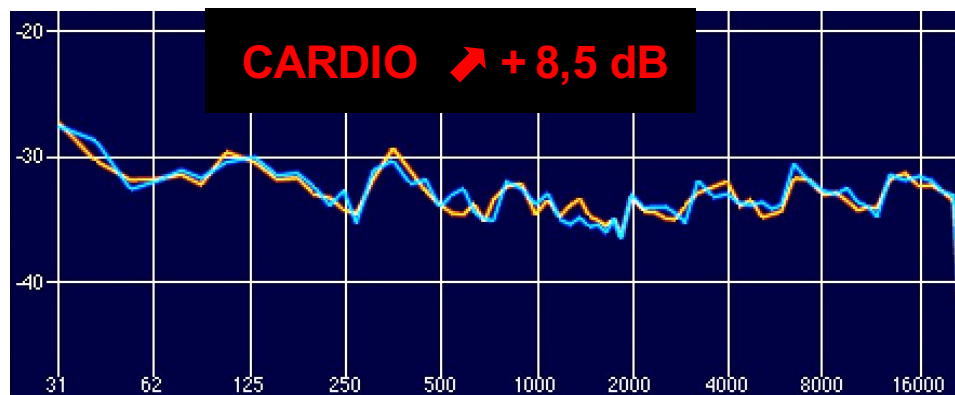
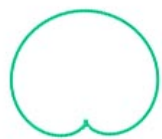
Bruit Rose sur 4 pistes
Corrélé à **+0,25**

OUT : Format B (FuMa)

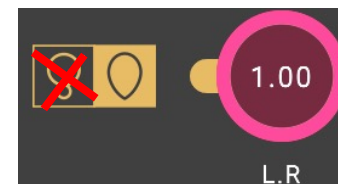
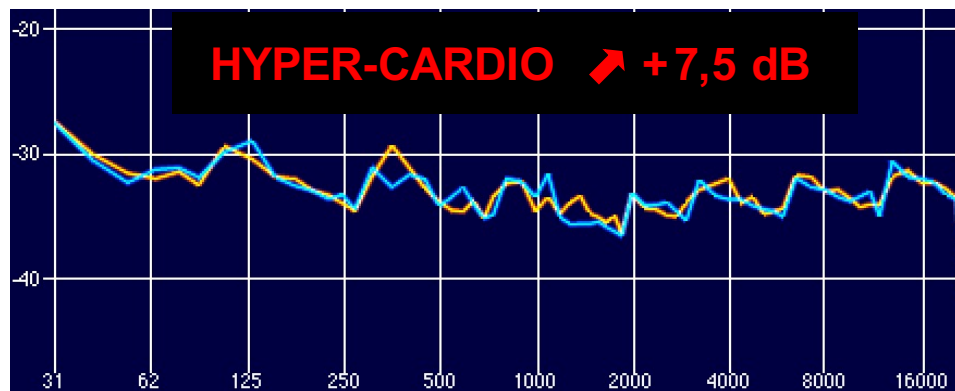


Bleu = 5.1 à Gauche L
Orange = Bruit Rose IN

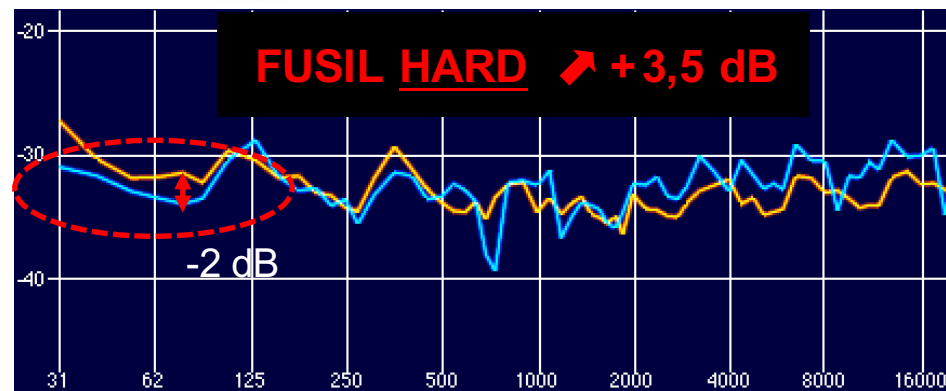
IN : Format B (Fuma) OUT : 5.1



≠ 1 dB



Identiques



IN : Format A

Bruit Rose sur 4 pistes
Corrélé à +0,5

OUT : Format B (FuMa)

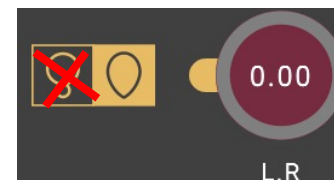
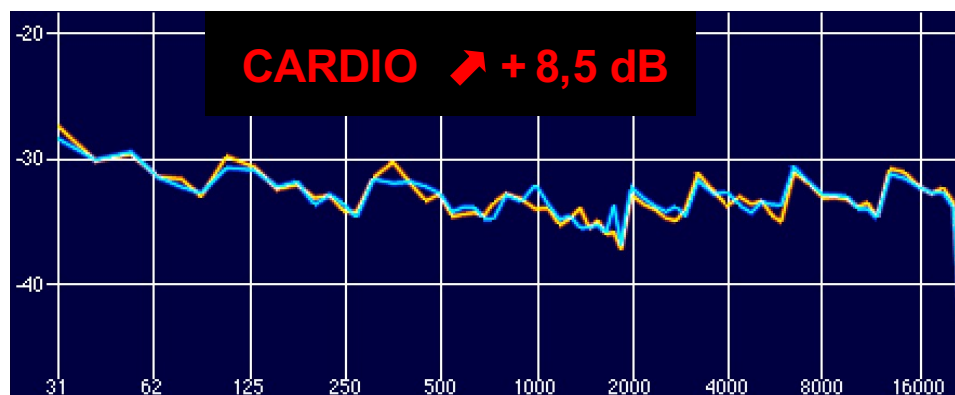


Bleu = 5.1 à Gauche L
Orange = Bruit Rose IN

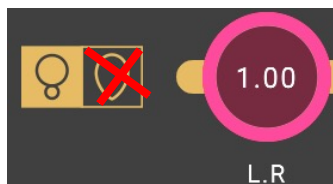
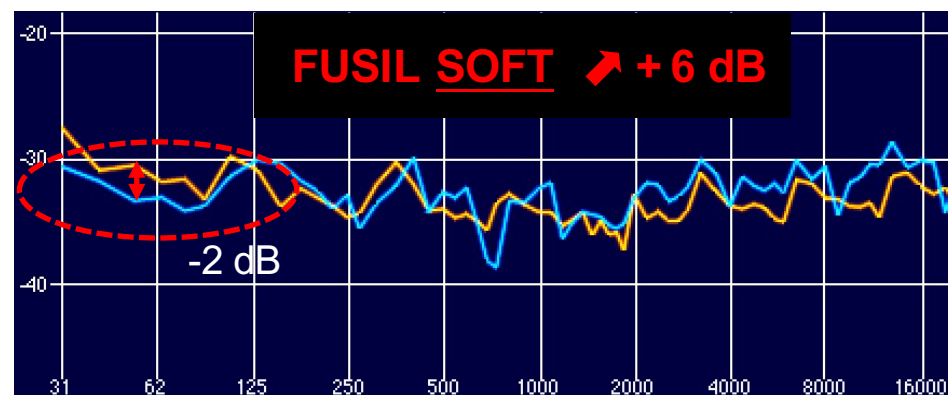
IN : Format B (Fuma) OUT : 5.1



L.R

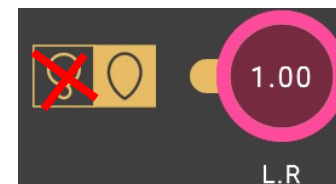
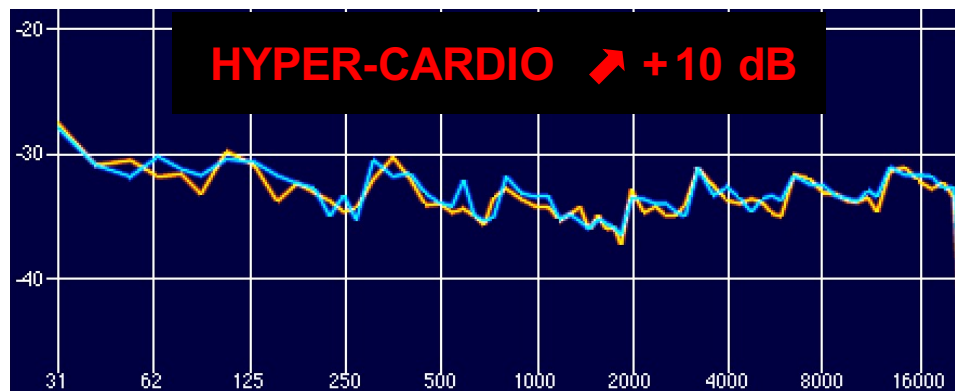


L.R



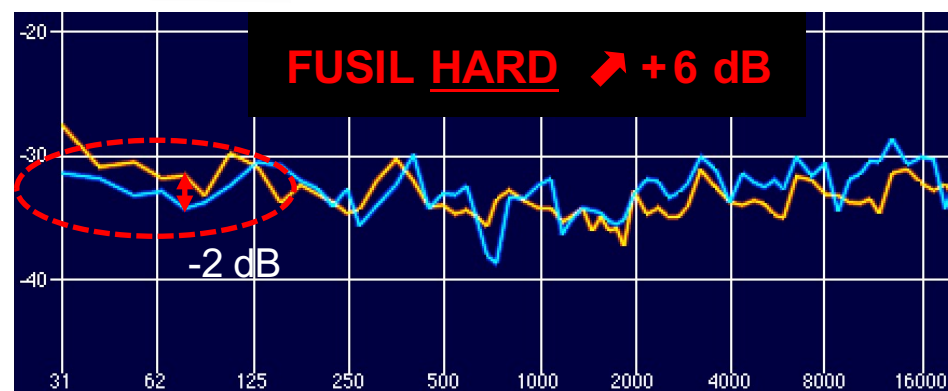
L.R

↗
≠ 1,5 dB
↘



L.R

Identiques



IN : Format A

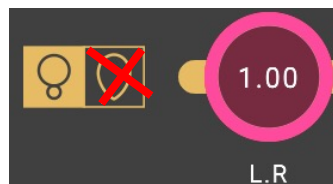
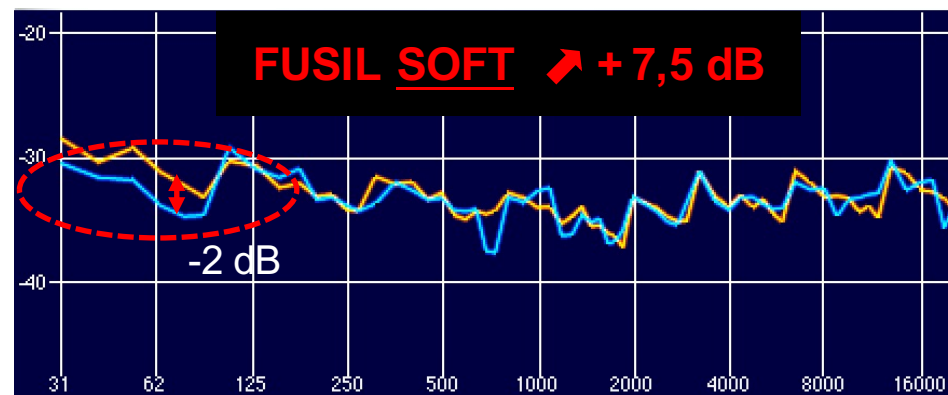
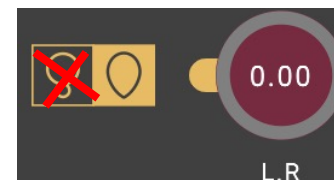
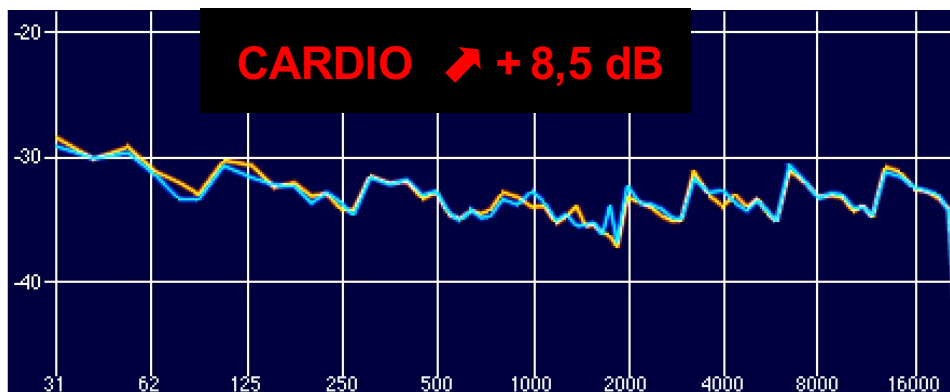
Bruit Rose sur 4 pistes
Corrélé à **+0,75**

OUT : Format B (FuMa)

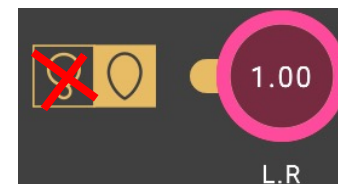
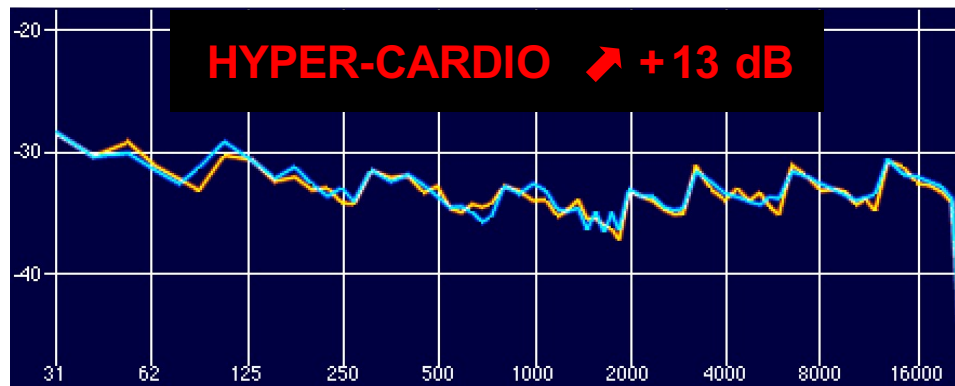


Bleu = 5.1 à Gauche L
Orange = Bruit Rose IN

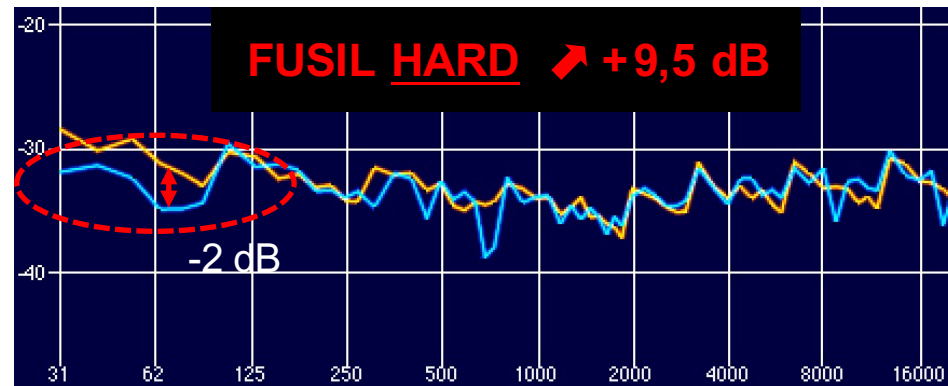
IN : Format B (Fuma) OUT : 5.1



↗
≠ 4,5 dB
↘



↗
≠ 2 dB
↘

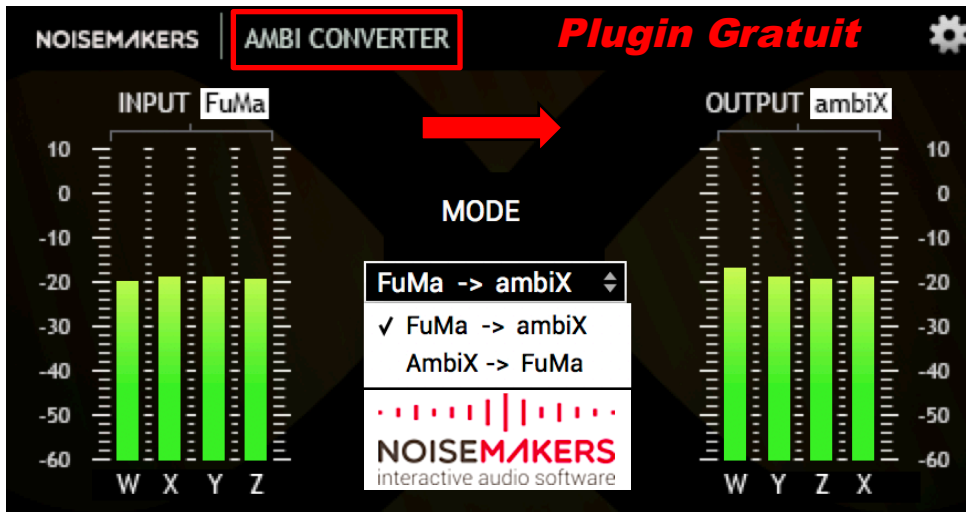


DAW REAPER VST

Conversion de FuMa vers ambiX

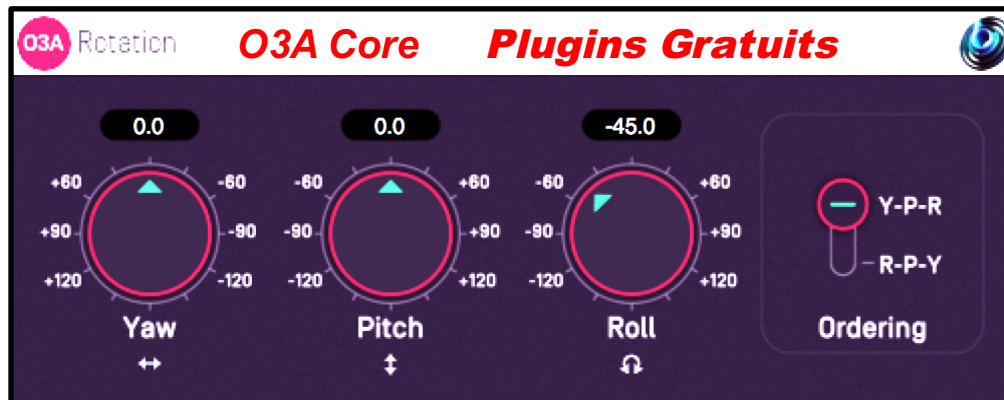
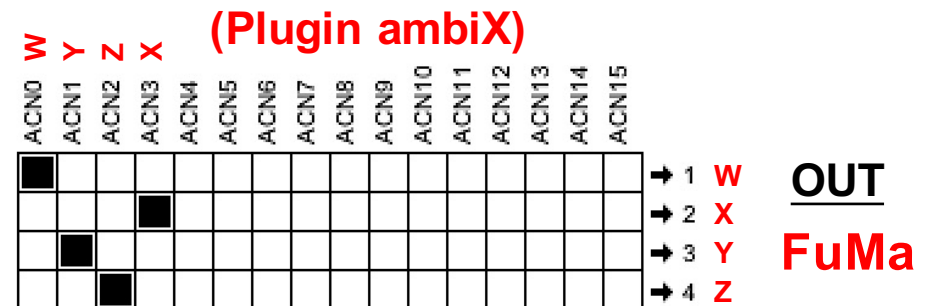
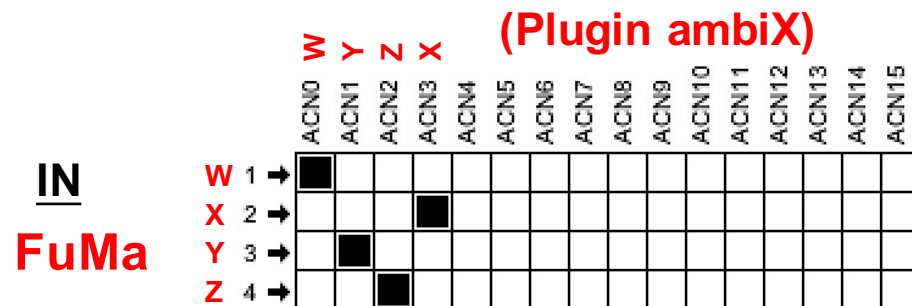
« **FuMa** » signifie «Furse-Malham», c'est à dire que l'ordre des canaux est (W, X, Y, Z) avec le canal W normalisé : $1/\sqrt{2} = -3 \text{ dB}$.

« **ambiX** » signifie l'ordre des canaux ACN avec la normalisation SN3D, c'est à dire que l'ordre des canaux est (W, Y, Z, X) sans mise à l'échelle des canaux.



<https://www.noisemakers.fr/ambi-converter/>

Insertion d'un plugin **ambiX** (ou SN3D) dans une chaine **FuMa** :



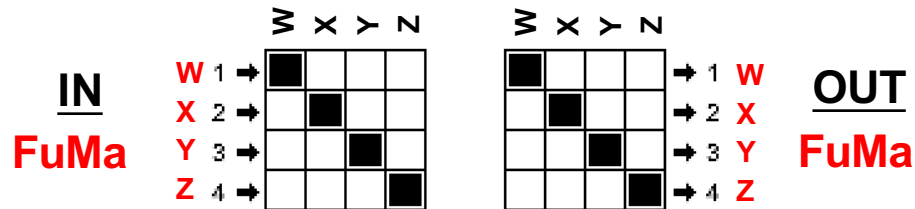
BLUE RIPPLE SOUND = Plugins ambiX

La bibliothèque de plugins O3A Core est un ensemble d'outils essentiels qui fournissent toutes les bases pour produire un mixage 3D ambisonique d'ordre supérieur (HOA).

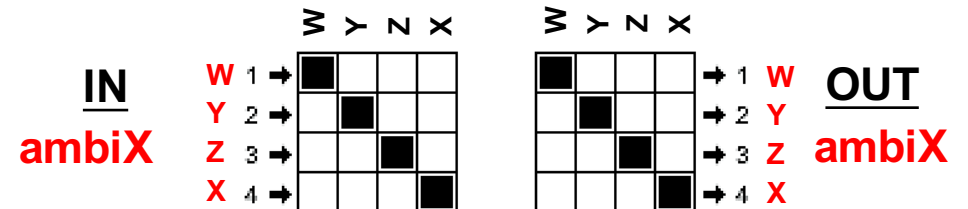
<http://www.blueripplesound.com/products/o3a-core>

DAW REAPER VST

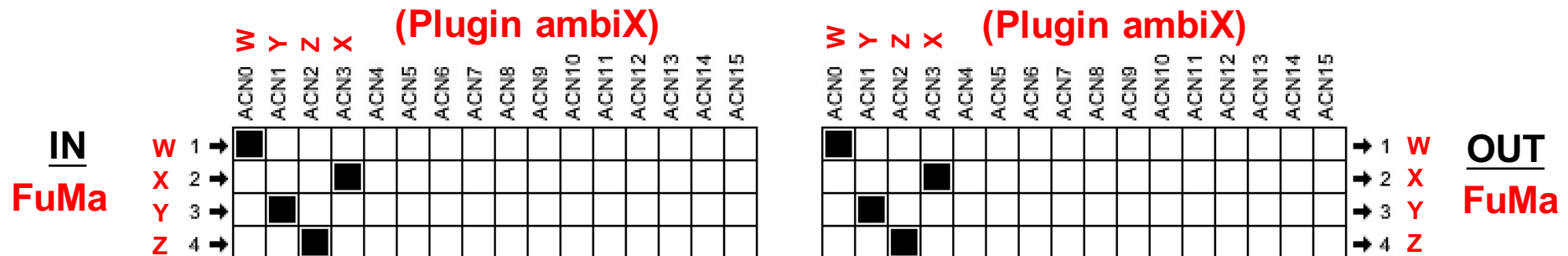
Plugin **FuMa** (ou **Classic**) :



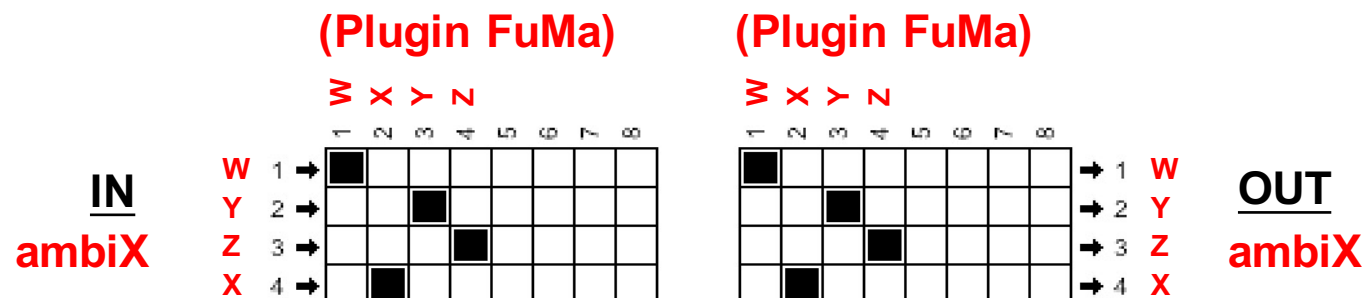
Plugin **ambiX** (ou **SN3D**) :



Insertion d'un plugin **ambiX** (ou **SN3D**) dans une chaine **FuMa** :



Insertion d'un plugin **FuMa** dans une chaine **ambiX** (ou **SN3D**) :

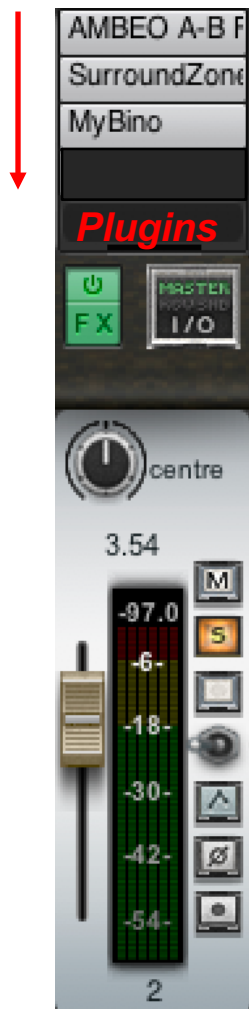


Processus de "Binauralisation" à partir d'une captation Ambisonique en Format A :

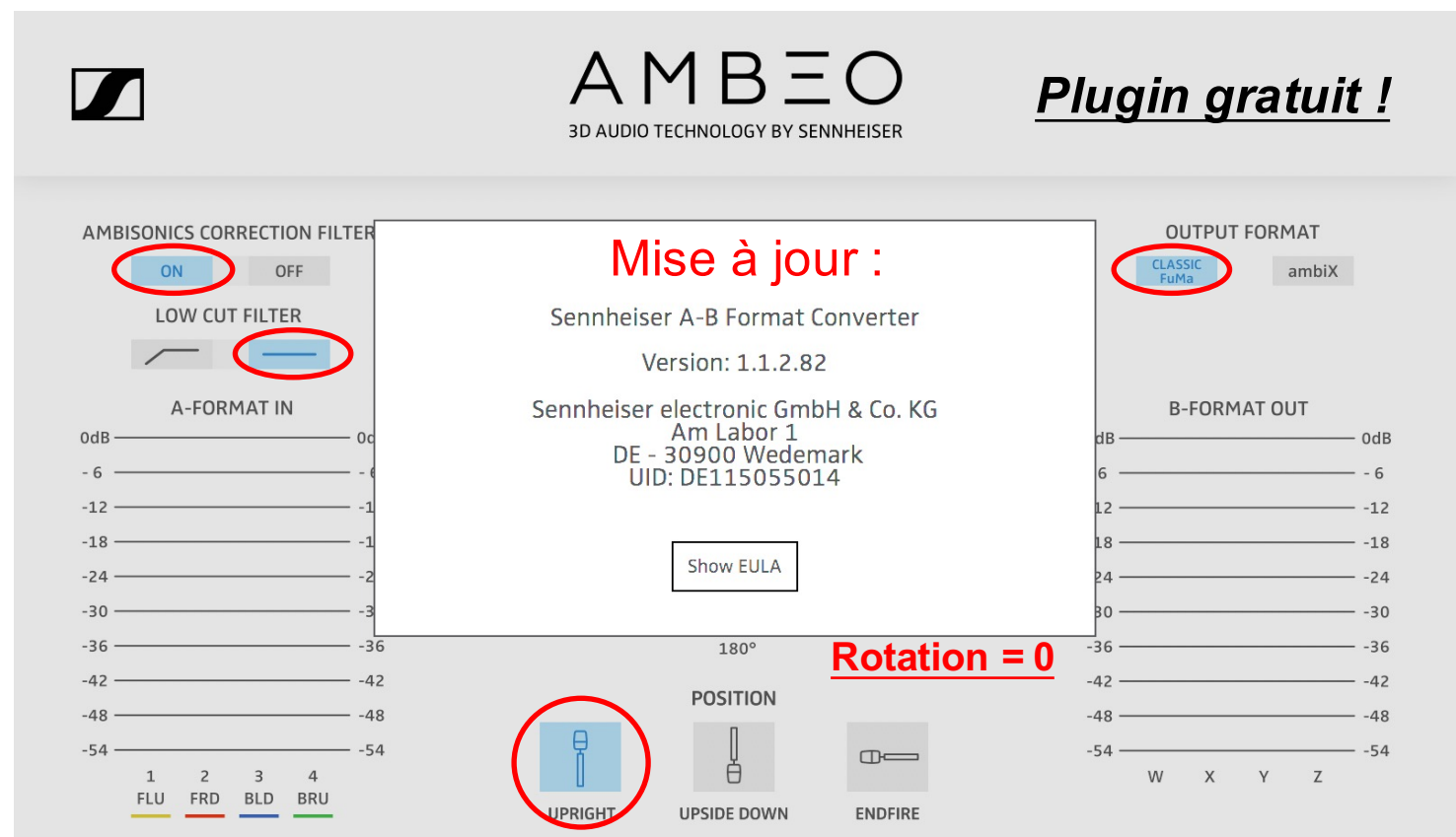
Note : *Processus identique pour Le « Double XY » ou pour L'Ambéo VR mic.*

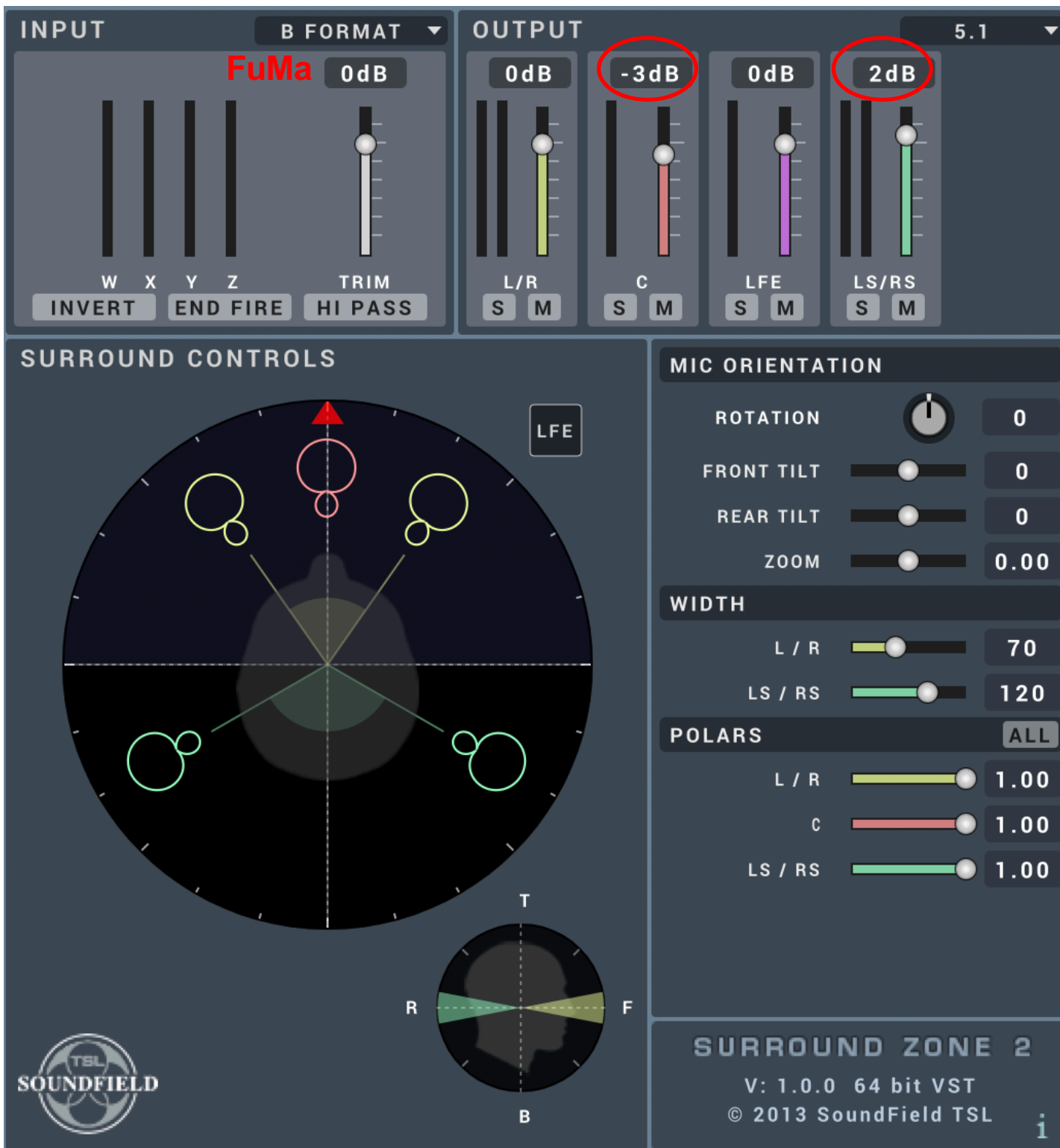
Suite d'Ambiances à la Maison de la Radio (2 mn) :

Je tourne autour du Double XY ou de L'Ambéo MIC VR de Sennheiser, cafétéria, hall Porte A sécurité, devant une loge, Auditorium, sous la radiale C, extérieur cour, cantine à l'ouverture.



Transformation du Format A en Format B (FuMa) :



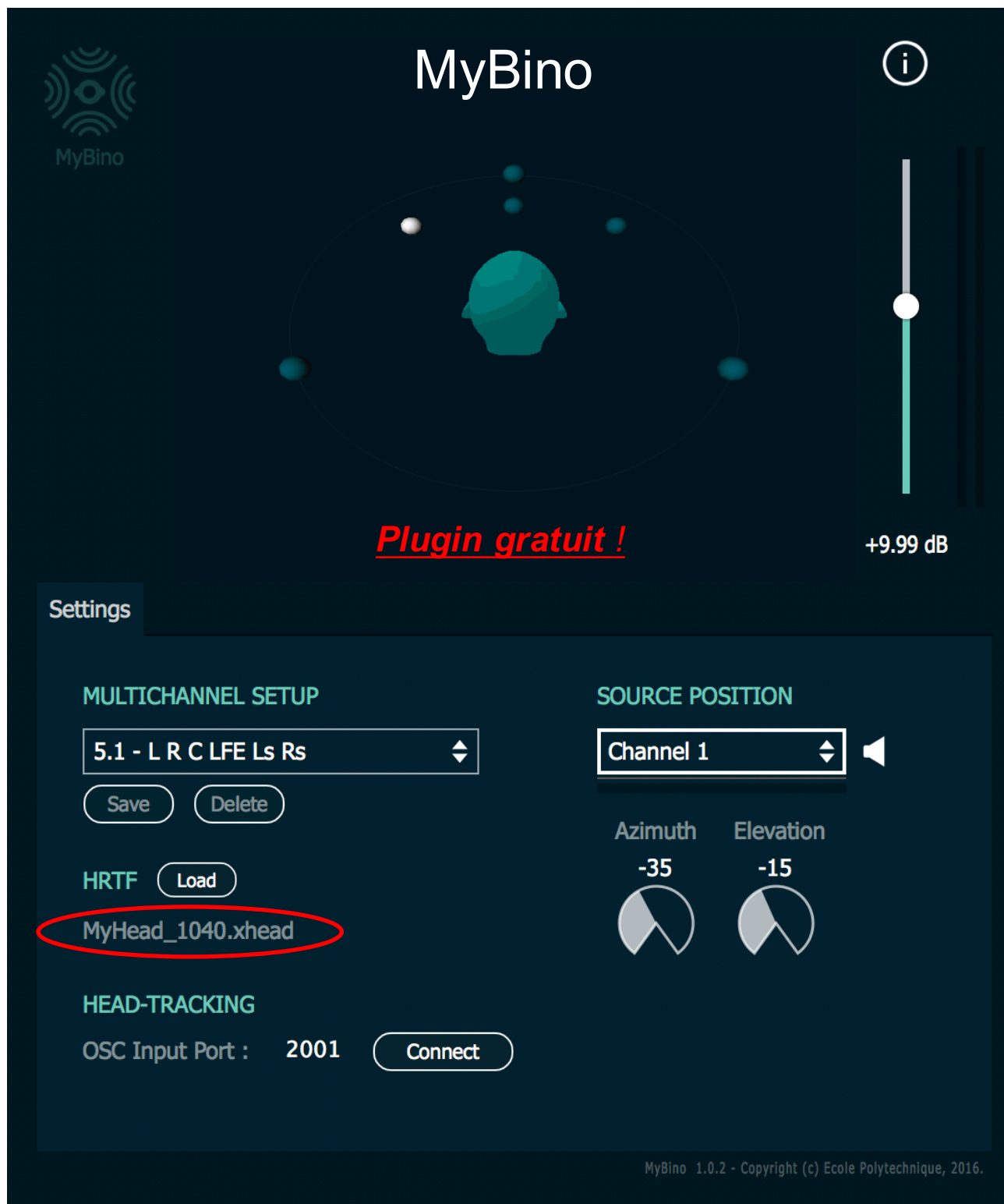


Plugin gratuit !

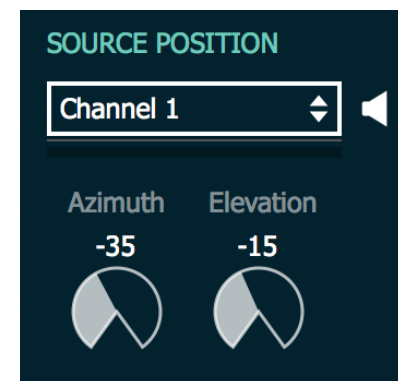
← Je privilégie les arrières Ls Rs et moins le centre C...

← L / R à 70° donne un effet panoramique même en stéréo...

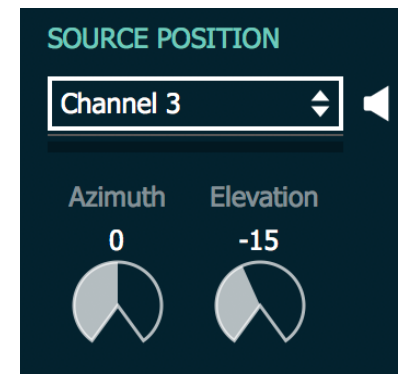
← Polars = +1 donne plus d'externalisation...



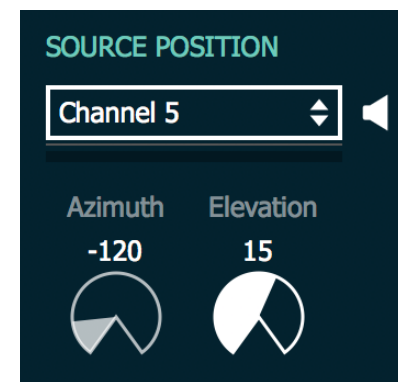
<http://www.cmap.polytechnique.fr/xaudio/mybino/>



Pour les canaux G et D



Pour le canal central C



Pour les canaux
Arrière G et Arrière D

SOUNDFIELD BY RØDE

NT-SF1

AMBISONIC MICROPHONE



360° SURROUND
CAPTURE



48V PHANTOM
POWER



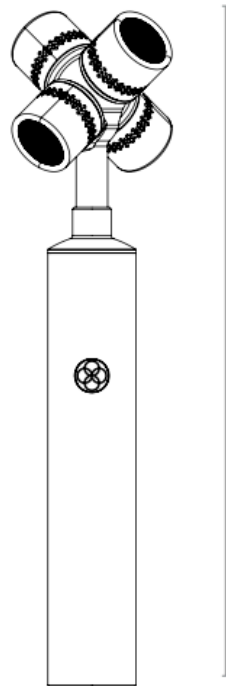
BROADCAST
QUALITY CONDENSER

With four RØDE true condenser capsules arranged in a tetrahedral array, the SoundField By RØDE NT-SF1 ambisonic microphone records the entire spherical soundfield. Every sound, every direction, perfectly. Comes with the free SoundField by RØDE plug-in.

- 4 x TF-45C capsules
- Ultra low noise
- High sensitivity
- Flat frequency response
- Superior RF immunity
- Cerakote finish
- Designed and Made in Australia

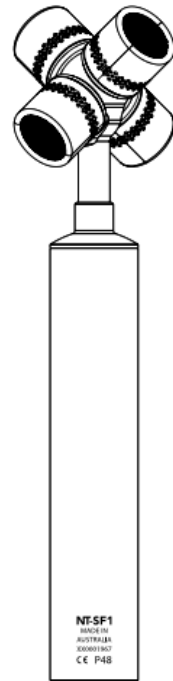


Front view



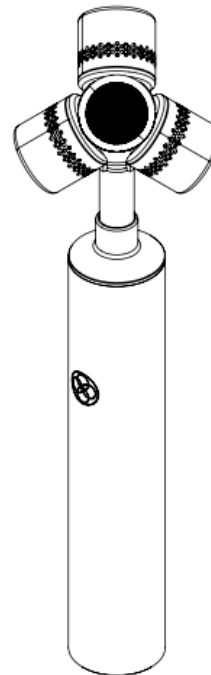
192.3mm

Side view



45.7mm

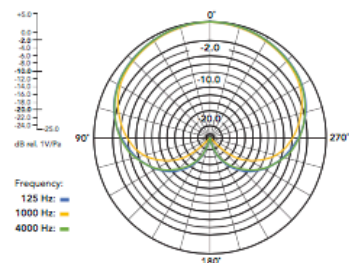
Top view



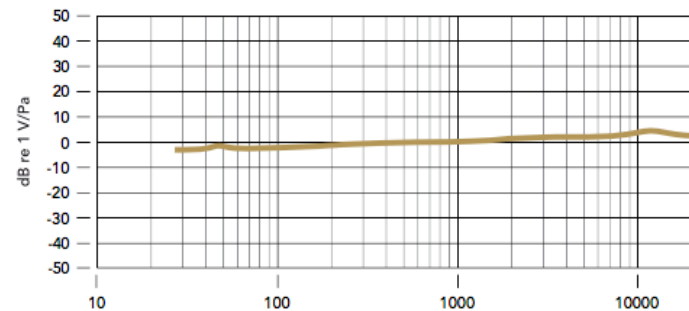
SPECIFICATIONS

Acoustic Principle:	Externally Biased Condenser
Active Electronics:	JFET impedance converter with bipolar output buffer
Frequency Range:	20Hz - 20kHz
Frequency Response:	30Hz - 20 kHz $\pm 3\text{dB}$ // 20 Hz - 20 kHz $\pm 4\text{dB}$
Signal to noise Ratio:	77 dB
Power requirements:	6.2mA @ 48V (Per Channel) Phantom Power
Equivalent Noise:	17 dBA
Dimensions:: (W x H x D)	45.7mm x 192.3mm x 45.7mm
Diameter:	Body Diameter 25.1mm
Weight:	286g

POLAR PATTERN



FREQUENCY RESPONSE



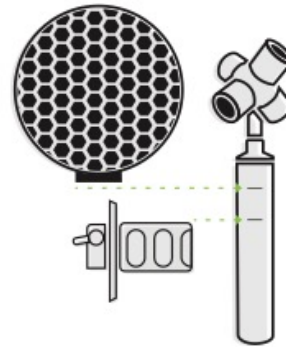
IN THE BOX

NT-SF1 Microphone
10-pin XLR to 4 x 3-pin XLR cable
Donut Shockmount
Pop Shield
Furry

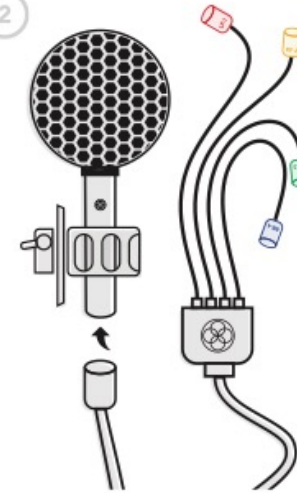
SOUNDFIELD
BY
RØDE
NT-SF1
Quickstart Guide



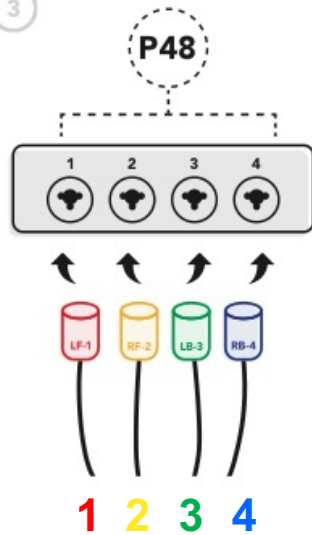
1



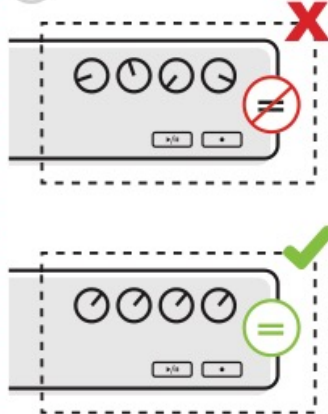
2



3



4



Love your NT-SF1?
Share with us
#rodemic

@rodemic

@rodemics

f rodemic



Scan the QR
code for more
information.

RØDE
MICROPHONES

www.rodemic.com



SOUNDFIELD STS200 + bonnette ZEPHYX

DCA^{UDIO}
VISUEL

**Microphone mono corps statique ambisonique
Format A avec bonnette CINELA ZEPHYX
complète**



https://www.dcaudiovisuel.com/product_info.php/products_id/339

En deux mots

Le SoundField SPS200 Format A est destiné aux prises de son stéréo et surround. Nettement moins onéreux que son grand frère ST350, le SPS200 a été spécialement conçu pour les enregistrements extérieurs. Assez léger, 220 g, alimenté en 48V Phantom, il est composé de quatre capsules à condensateur fournies par la société allemande MBHO GmbH, créée par des anciens de Schoeps. De fait, la couleur de ces capsules se rapproche fortement du son Schoeps.

L'inconvénient majeur de ce SPS200 dans une bonnette Rycote est qu'il devient alors extrêmement sensible à la fois aux bruits de manipulation et aux basses. Il nécessite de fait une suspension performante. Il est donc impossible à percher avec cette bonnette. Afin de l'adapter à une bonnette Zephyx de Cinela, le micro a été raccourci d'environ 2 cm, une version spéciale approuvée par les ingénieurs de SoundField. Ainsi le SPS200 peut enfin être perché et devient donc enfin utilisable pour les tournages de films et les fictions.

La technologie de prise de son multicanal Ambisonic s'appuie sur une théorie de la localisation des sons. Elle est apte à reproduire le champ sonore complet en décomposant les caractéristiques directionnelles d'un champ sonore en composantes harmoniques d'une sphère, appelées W (somme, omnidirectionnel), X (avant/arrière), Y (gauche/droite) et Z (haut/bas) qui constituent le Format B.

Au contraire des autres micros de la marque, le SPS200 produit un signal au Format A, composé des signaux issus directement des quatre capsules. Dans ce nouveau système, chaque capsule est donc enregistrée de manière discrète. Il permet ainsi le choix des préamplis et des convertisseurs A/N.

Après l'enregistrement du Format A, il est donc nécessaire de décoder ensuite celui-ci en interne sur un ordinateur via un plugin fourni par le constructeur (maintenant en téléchargement gratuit et sans protection), afin de créer au choix un signal surround ou stéréo. A cet effet donc, le plugin SPS200 Surround Zone, une version dédiée du Surround Zone traditionnel, prévu pour Pro Tools HD ou tout système DAW acceptant les plugins VST (on conseillera ici l'excellent logiciel Reaper de Cockos), permet d'encoder l'information directement vers le format multicanal de son choix, par défaut 5.1 cardioïde, mais aussi 5.1 bidirectionnel, 5.1 hypercardioïde, 6.1, 7.1, 8 ou simplement en stéréo, avec les différents paramètres que l'on connaît (rotation, tilt, zoom, directivité arrière, espacement avant et arrière).

Documentation du fabricant

[Présentation générale Soundfield SPS200 Format-A \(html\) \(en\)](#)

[Présentation générale Soundfield SPS200 Surround Zone plugin \(html\) \(en\)](#)

[Brochure Soundfield SPS200 Format-A \(pdf\) \(en\)](#)

[Mode d'emploi Soundfield SPS200 Format-A v. 1.02 \(pdf\) \(en\)](#)

[Plugin SPS200 Surround Zone Software v. 1.02 pour Pro Tools TDM \(PC\) \(zip\) \(en\)](#)

[Plugin VST SPS200 Surround Zone Software v. 1.02 \(PC\) \(zip\) \(en\)](#)

[Plugin SPS200 Surround Zone Software v. 1.02 pour Pro Tools TDM \(Mac\) \(zip\) \(en\)](#)

[Plugin VST SPS200 Surround Zone Software v. 1.02 \(Mac\) \(zip\) \(en\)](#)

Spécifications techniques

Type & Alimentation

Microphone Ambisonique Format A statique à condensateur, alim. 48 V.Ph.

Sensibilité

14 mV/Pa ; niveau max. 130 dB SPL.

Directivité & Réponse

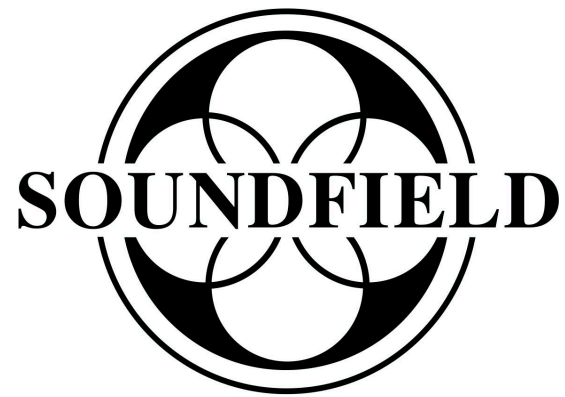
Gradient de pression, 4 capsules cardioïdes ; BP : 40 Hz - 20 kHz, ± 3 dB ; fourni avec plugin d'encodage, bonnette Zephyx.

Connectique & Mensurations

Dimensions 19 cm x 2 cm (diam.) x 6 cm (diam. tête), masse 0.22 kg. Conn. 10 pts.

01 44 37 93 00

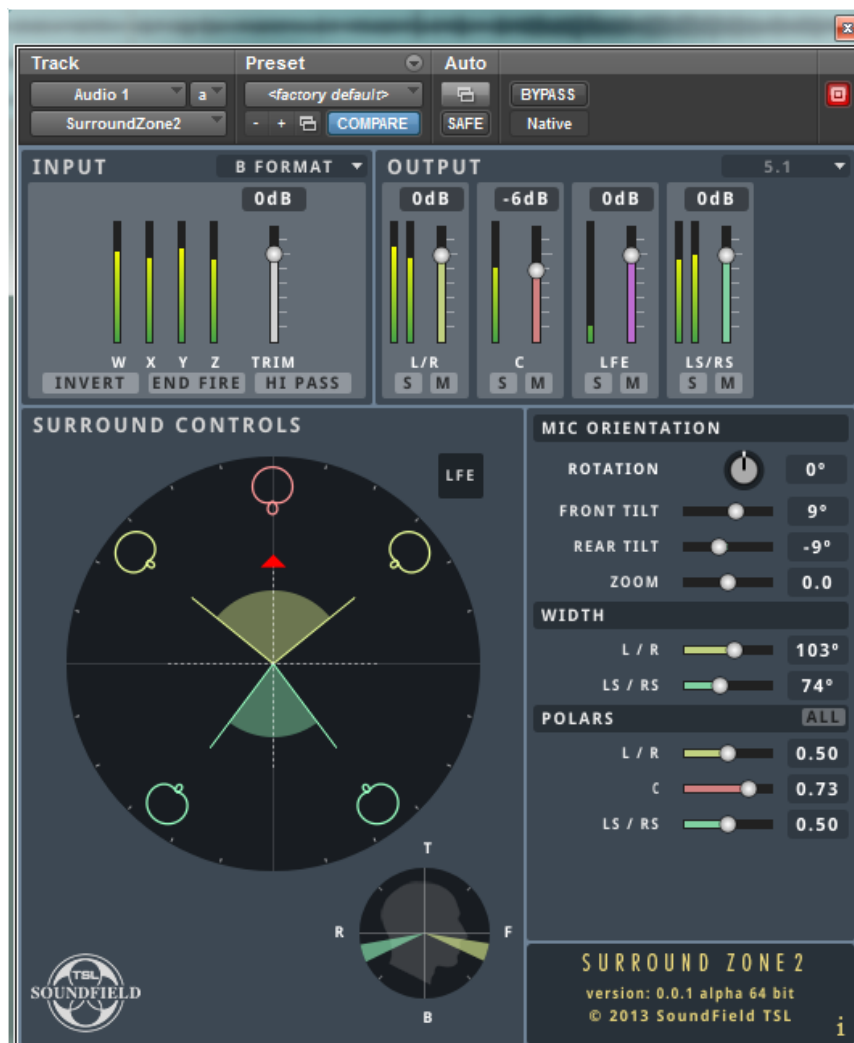
3-7 rue Edmond Roger
75015 Paris



SoundField SurroundZone2

User Guide

Version 1.0



CONTENTS:

Introduction.....	2
Explanation of Controls: Input Section.....	3
Explanation of Controls: Output Section.....	4
Surround Controls.....	6

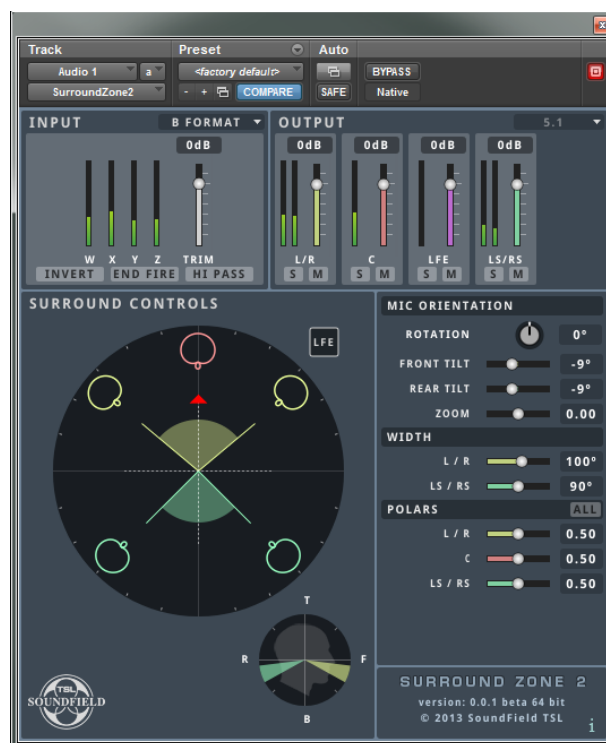
INTRODUCTION

The SurroundZone2 plug-in brings all the benefits of SoundField Technology to post-production and combines the functionality of the original Surround Zone and SPS200 Surround Zone plug-ins as well as add a host of new features.

The plug-in is designed to accept four SoundField A-Format (LF, RF, LB and RB) or B-Format signals (W, X, Y and Z) generated by any of the current SoundField microphone models in the range. The unique four capsule array in every SoundField microphone captures three dimensional sound at the same 'central point' thereby eliminating all the time and phase related anomalies created by multiple spaced microphones.

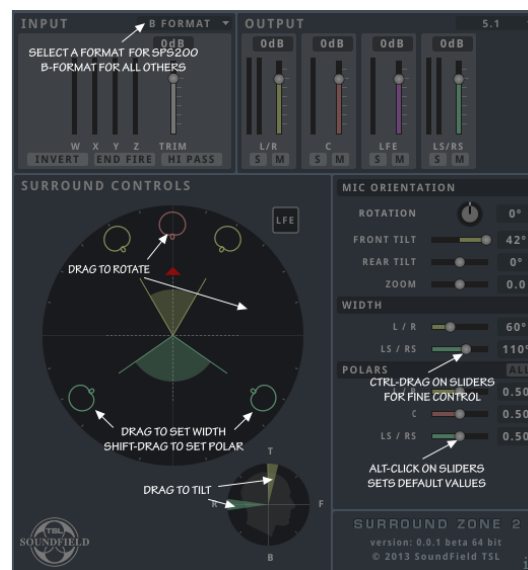
Once in the SoundField B-Format domain the point of acoustic origin is defined and all output variations i.e. mono, stereo, 5.1, 6.1 etc. are derived from this 'central point'. This provides the user with completely phase accurate surround sound and stereo recordings.

All plug-in features can be utilised either retrospectively in the studio after the recording has taken place or 'live' and provides the user with the most powerful stereo and surround sound recording and post-production package available.



EXPLANATION OF CONTROLS

Pressing the 'i' button located at the bottom right of the SurroundZone2 plug-in will show a QuickStart help "overlay" pointing out some of the less obvious controls.



INPUT SECTION

- Input Format select allows you to choose between an A-Format or B-Format input depending on the signals that need processing. For signals from all SoundField microphones other than the SPS200 use the B-Format input mode, for any A-Format signals derived from an SPS200 microphone use the A-Format input mode.
- The input LEVEL control adjusts the input gain of all four A-Format or B-Format channels simultaneously and ranges from -30dB to +10dB. Metering of the four input channels takes place on four individual bargraphs.
- Enabling the INVERT mode maintains the correct three-dimensional when the microphone is suspended upside down above the sound source. Not selecting this mode with the mic suspended upside down will result in the Left/Right width information and Up/Down height information being inverted.
- Enabling the END FIRE mode maintains the correct three-dimensional perspective when the mic is used in the horizontal position pointing at the sound source 'like a flashlight'. Not selecting this mode when the microphone is horizontally pointed will result in the Up/Down height information and the Front/Back depth information being reversed.



Please note - if INVERT or END FIRE has been applied at the 'live' recording stage on the SoundField hardware control unit do not apply these features again in post-production. This will neutralise the intended effect.

- The Hi-Pass filter is designed to remove any low frequency rumble such as wind noise and has a cut-off frequency of 80Hz and is 2nd order.

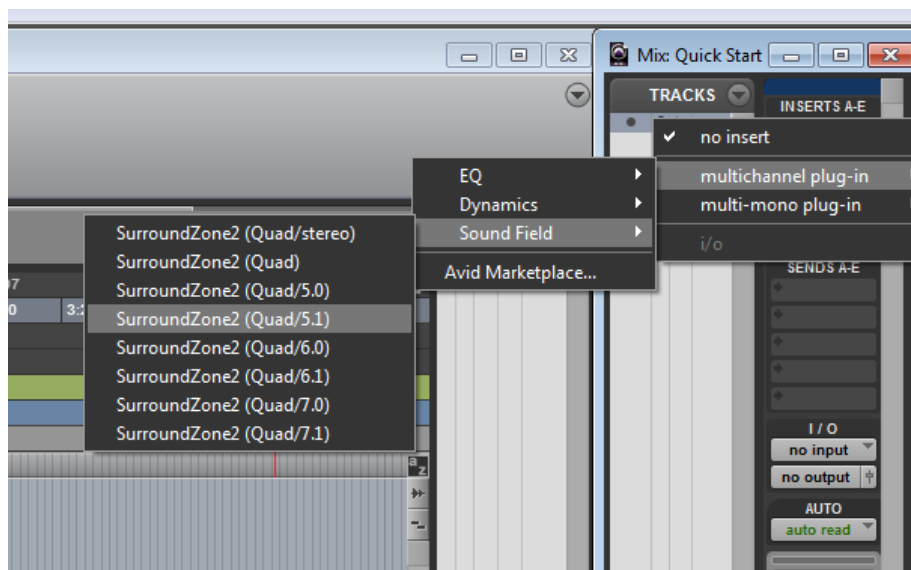
OUTPUT SECTION

The Output Section of SurroundZone2 is an important part of the plug-in as this determines the output mode and as a result the Surround Controls available. For example a 7.1 output has more width and polar pattern controls than a 5.1 output.

- The available output modes are: Stereo, 5.0, 5.1, 6.0, 6.1, 7.0, 7.1 and B-Format (for A-Format input only).

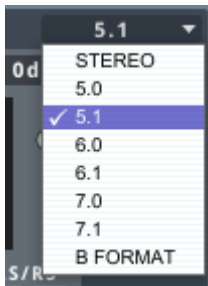
The behaviour of the output section is the only part of SurroundZone2 that is dependent on the actual plug-in format, with the AAX version of the plug-in behaving in one way and the VST and AU versions behaving in another way.

The AAX Plug-In versions comes in eight different output modes and these are selected at the point the plug-in is inserted.



Here is the output routing for the AAX version of the plug-in:

	1	2	3	4	5	6	7	8
Stereo	L	R						
B-Format	W	X	Y	Z				
5.0	L	C	R	LS	RS			
5.1	L	C	R	LS	RS	LFE		
6.0	L	C	R	LS	CS	RS		
6.1	L	C	R	LS	CS	RS	LFE	
7.0	L	C	R	LS	RS	RLS	RRS	
7.1	L	C	R	LS	RS	RLS	RRS	LFE

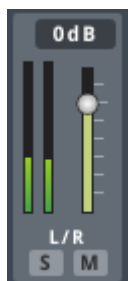


The VST and AU versions also have eight different output modes, but these are selected from within the plug-in rather than at the point of insertion.

Here is the output routing for the VST and AU versions of the plug-in:

	1	2	3	4	5	6	7	8
Stereo	L	R						
B-Format	W	X	Y	Z				
5.0	L	R	C	LS	RS			
5.1	L	R	C	LFE	LS	RS		
6.0	L	R	C	LS	RS	C		
6.1	L	R	C	LFE	LS	RS	C	
7.0	L	R	C	LS	RS	LC	RC	
7.1	L	R	C	LFE	LS	RS	LC	RC

It is important to note that this is the internal routing and most digital audio workstations allow the user to define their own output routing to suit their specific needs.

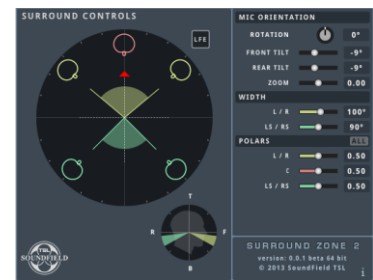


Each output pair (front or rear stereo pairs) or single output (Centre and LFE channels) has an independent output level control with a range from -30dB to +10dB and Solo and Mute buttons. Bargraph meters are provided for level monitoring of each individual output channel.

SURROUND CONTROLS

Mic Orientation

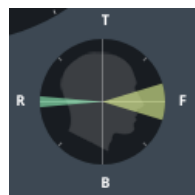
The Rotate, Snap Tilt and Zoom controls are unique to SoundField Technology and give the user a 'you are there' post production experience with the opportunity to re-position the microphone.



Rotate allows the user to rotate a captured three dimensional soundfield a full 360 degrees without losing any spatial information or introducing any artefacts.



Snap Tilt allows the user to individually tilt the front and the rear of a captured three dimensional soundfield by ± 90 degrees without losing any spatial information or introducing any audible artefacts.



Zoom gives the effect of zooming in or further away from the sound source i.e. it alters the front/back balance without introducing any artefacts, audible or otherwise.

Width and Polar Controls

The REAR PATTERN control allows the user to vary the polar pattern of the rear surround channels on all but the 8-channel surround mode. Cardioid or hyper-cardioid may be selected to optimise localisation or figure-of-eights for a more enveloping sound depending on application and personal preference.

These controls allow the front and rear stage width to be varied. For example, a wider front image may be desirable for a large orchestra, whilst for a centre-front positioned soloist a narrower angle may be preferable.

Merci de votre attention

Site : <https://www.lesonbinaural.fr>

Mail : b.lagnel@gmail.com