Plugin Gratuit !

Le plugin
Soundfield by RØDE

Version 1.0.4

Sorti en Octobre 2018

https://www.lesonbinaural.fr

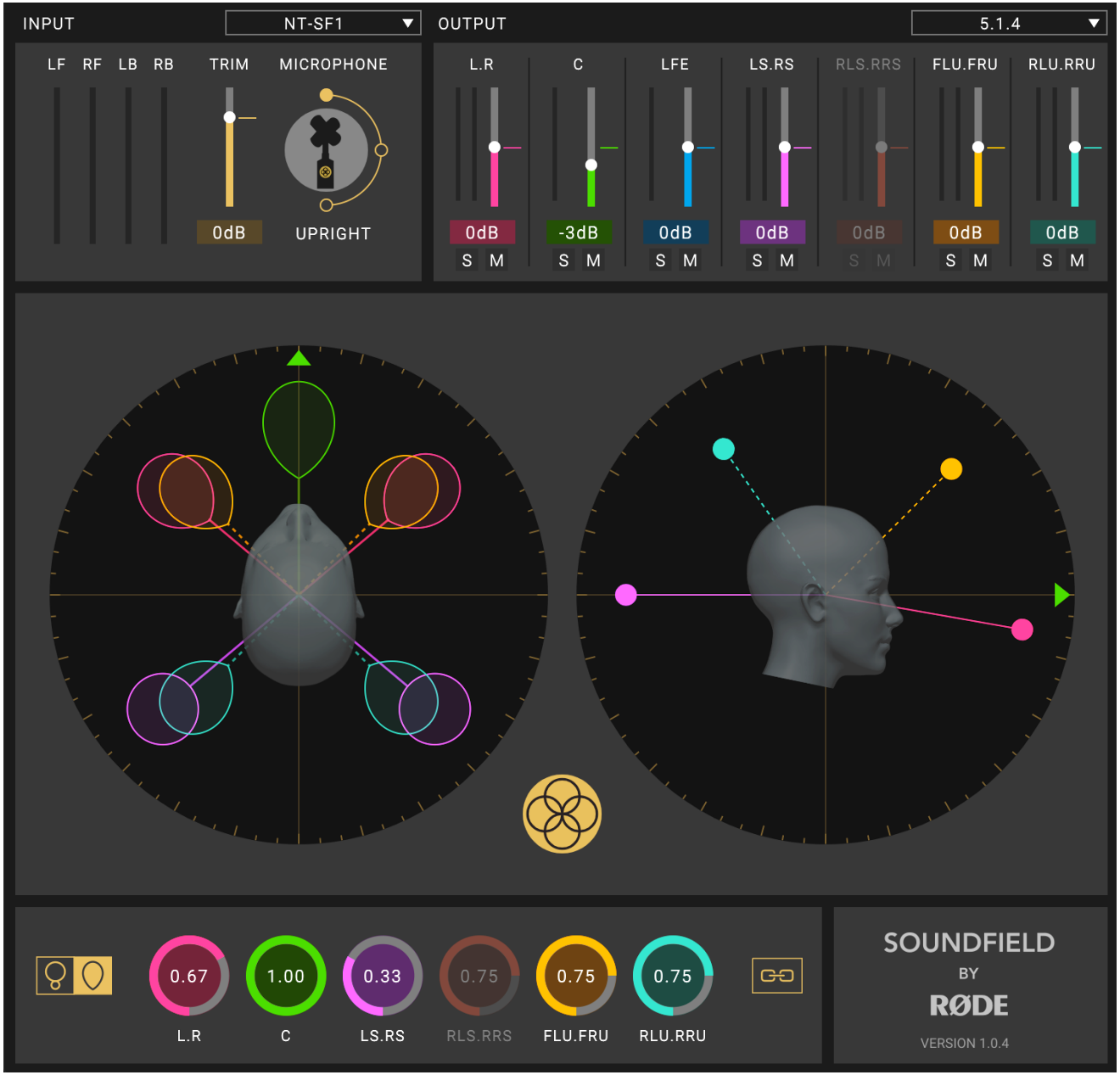
Bernard Lagnel

Mai 2020 révision

V 1.0.4

Soundfield by RØDE

https://fr.rode.com/soundfieldplugin



1 Novembre 2018

RØDE Microphones
noreply@rode.com

Download the SoundField By RØDE Plugin V1.0.4 now! (Télécharger le SoundField par RØDE Plugin V1.0.4 maintenant!)

Salut,

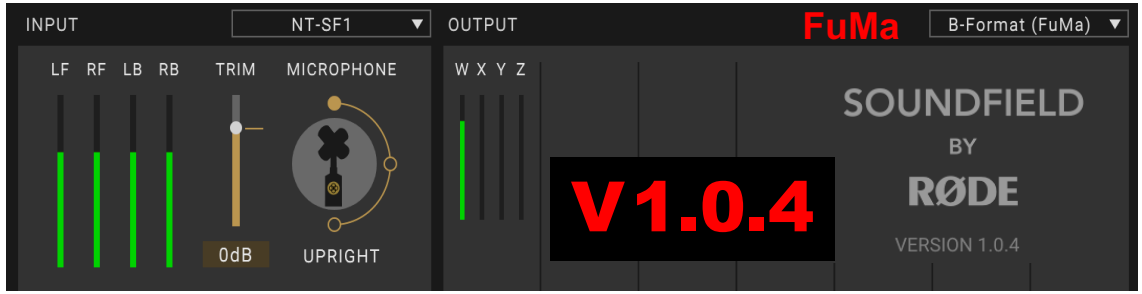
Nous avons une nouvelle version du plug-in SoundField Par RØDE pour vous de télécharger! Version 1.0.4 a quelques corrections de bugs et amélioration de la performance, alors assurez-vous de mettre à jour votre plugin et profiter de la flexibilité incroyable de SoundField par RØDE.

DOWNLOAD NOW

Traitement Ambisonique avancé

Doc RØDE

https://fr.rode.com/soundfieldplugin



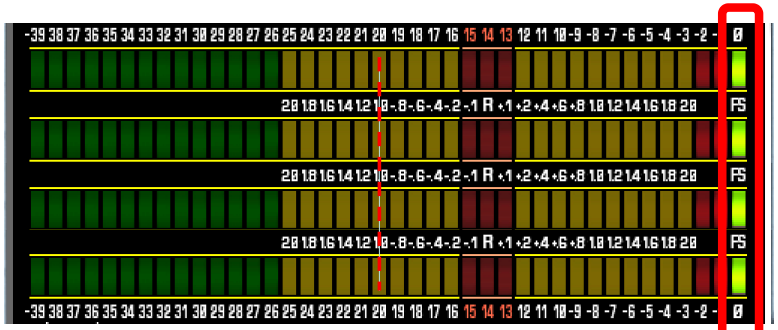
Le nouveau plug-in **SoundField by RØDE** offre une **nouvelle approche révolutionnaire du traitement ambisonique**, associée à une nouvelle interface utilisateur intuitive.

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

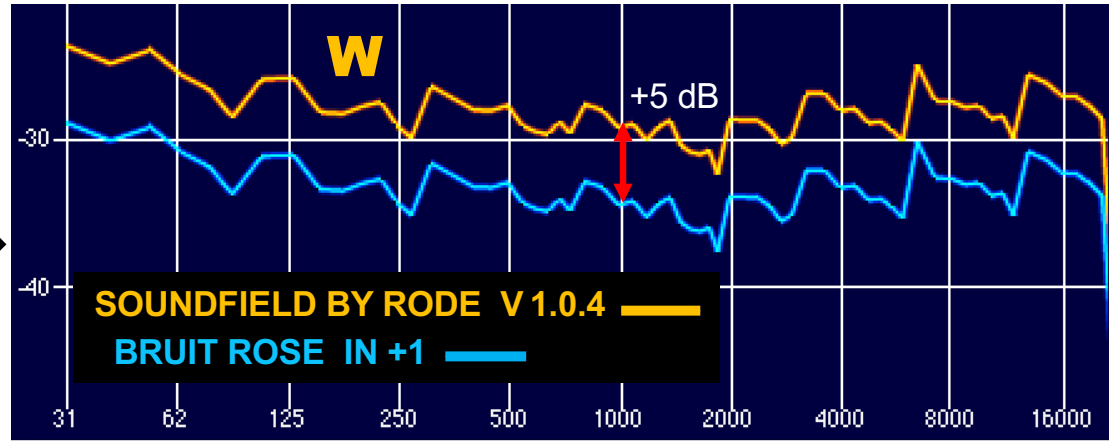
Doc RØDE

Ambisonics correction filter = OFF ??

Bruit Rose Corrélé sur les 4 canaux :



IN : Format A



OUT : Format B (FuMa)

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

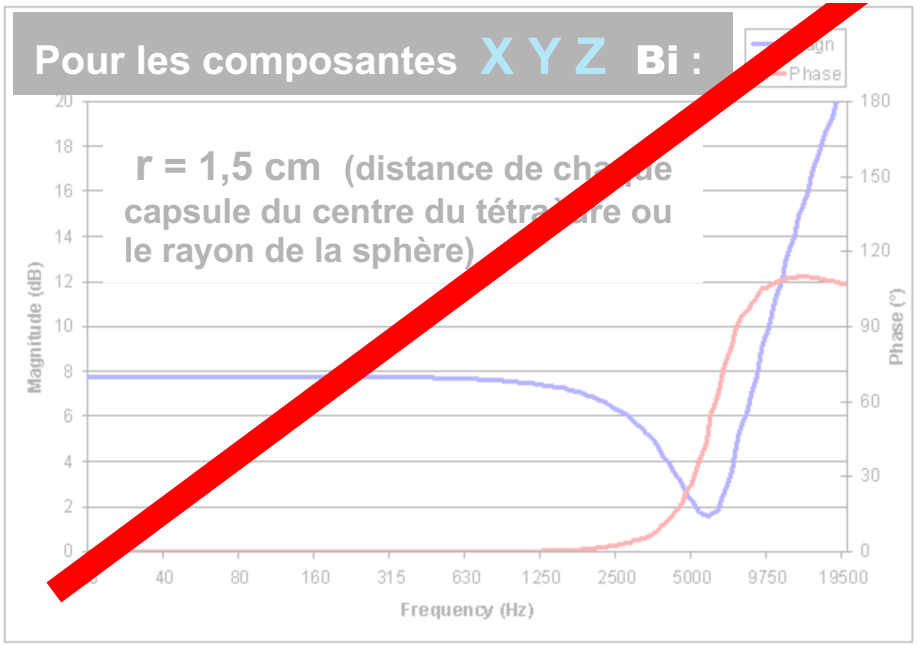
Pour la composante W Omni :

Pour la composante W Omni :

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

V 1.0.4 Ambisonics correction filter = OFF

Pour les composantes X Y Z Bi :

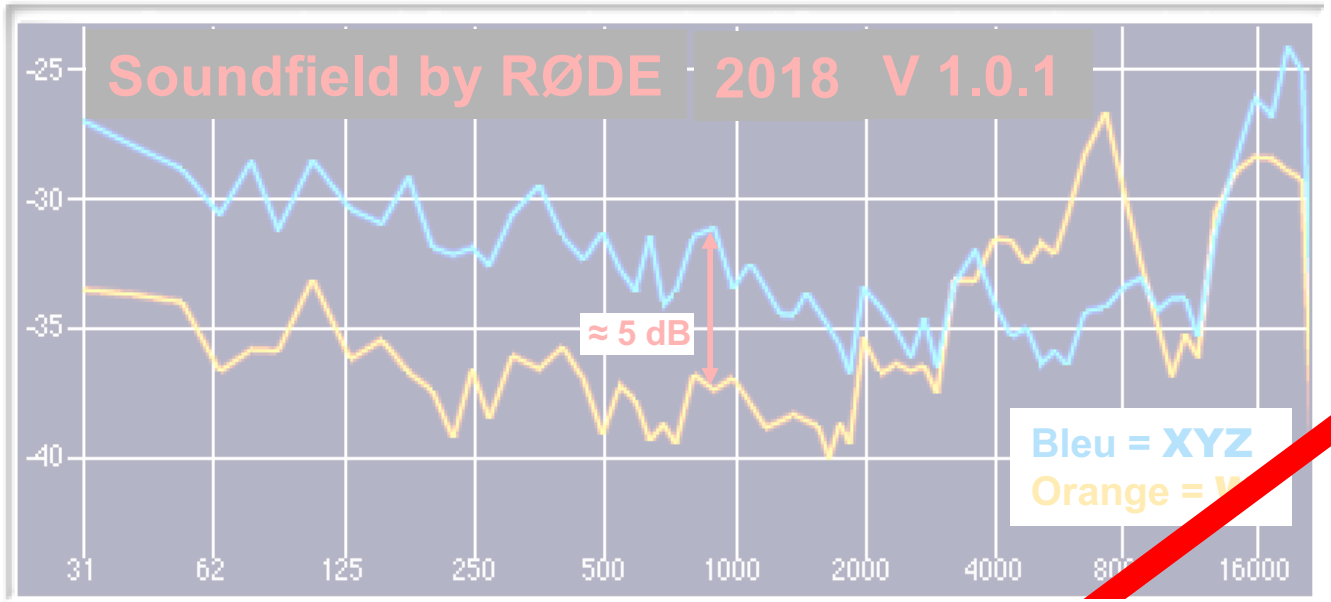


Pour les composantes X Y Z Bi :

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

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)

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



Plugin Soundfield by RØDE V1.0.1

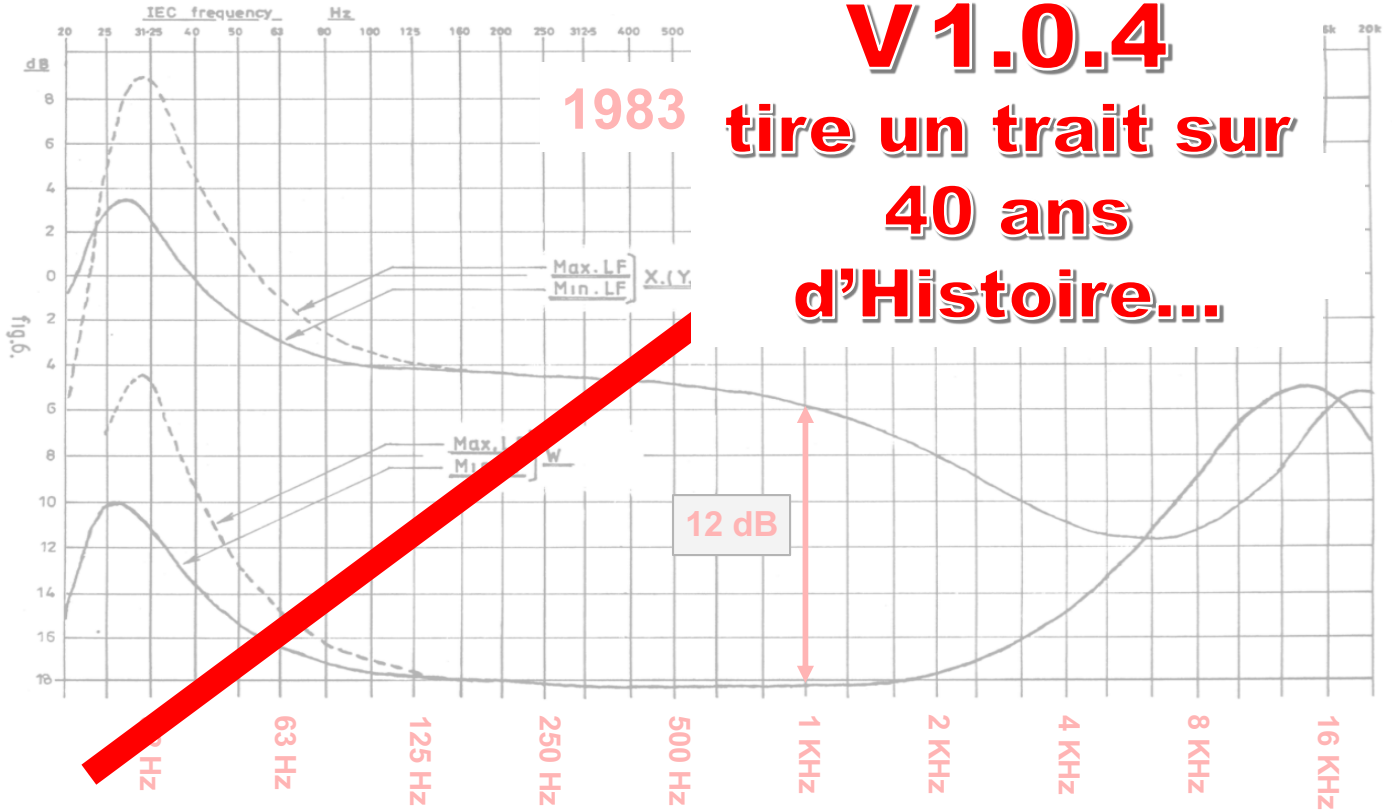
Input :

Bruit Rose sur 4 pistes

Dé-corrélé à + 0,0

Output :

Format B (FuMa)



V 1.0.4
tire un trait sur 40 ans d'Histoire...

Micro CALREC

Soundfield MK.4

1983

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

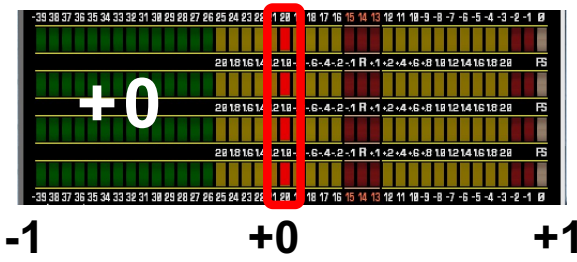
SOUNDFIELD BY RØDE

VERSION 1.0.4

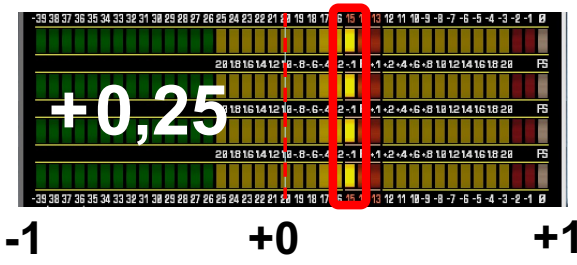
V1.0.4

IN : Format A

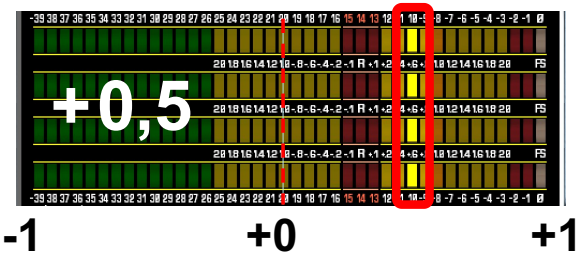
Bruit Rose Corrélé à :



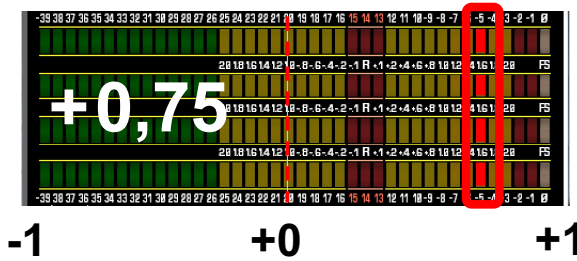
-1 +0 +1



-1 +0 +1



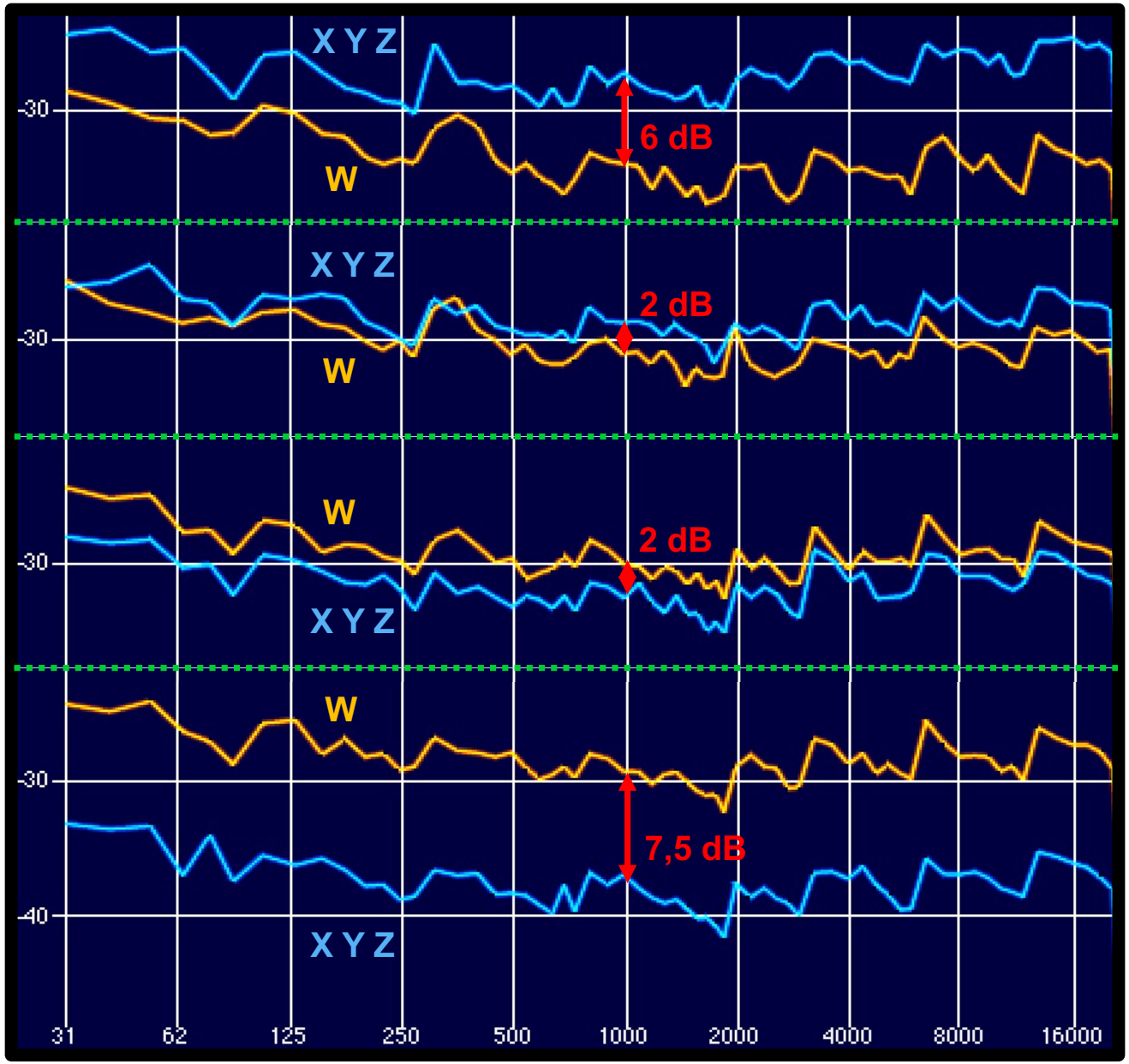
-1 +0 +1



-1 +0 +1

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

OUT : Format B (FuMa)



Soundfield by RØDE

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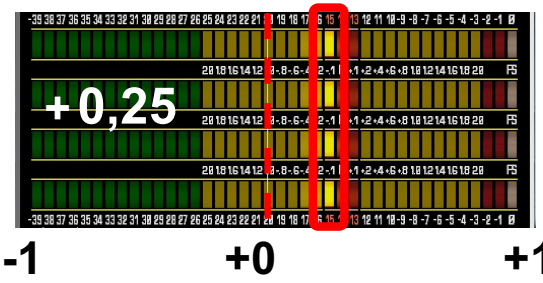
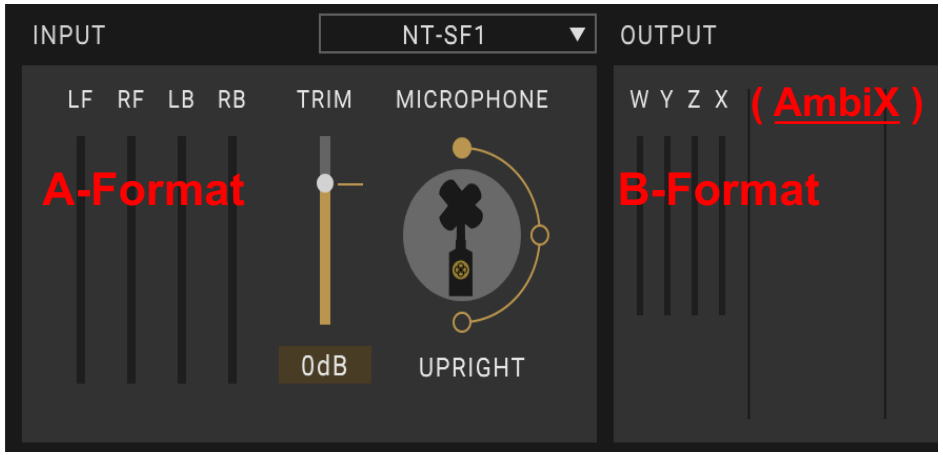
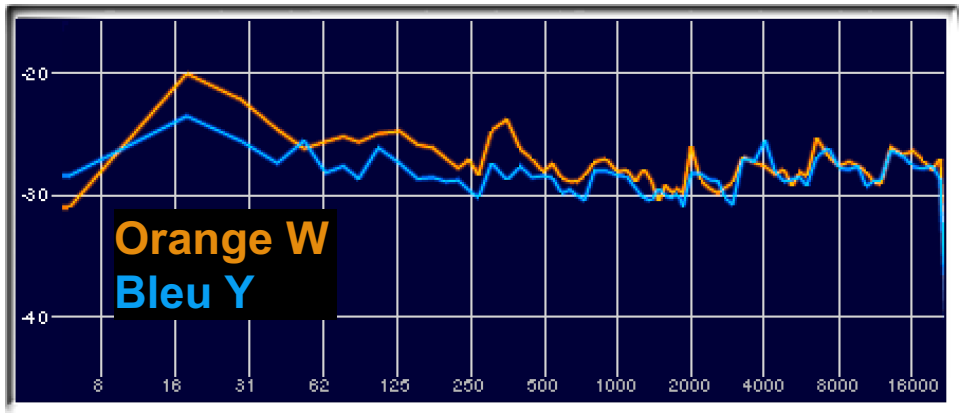
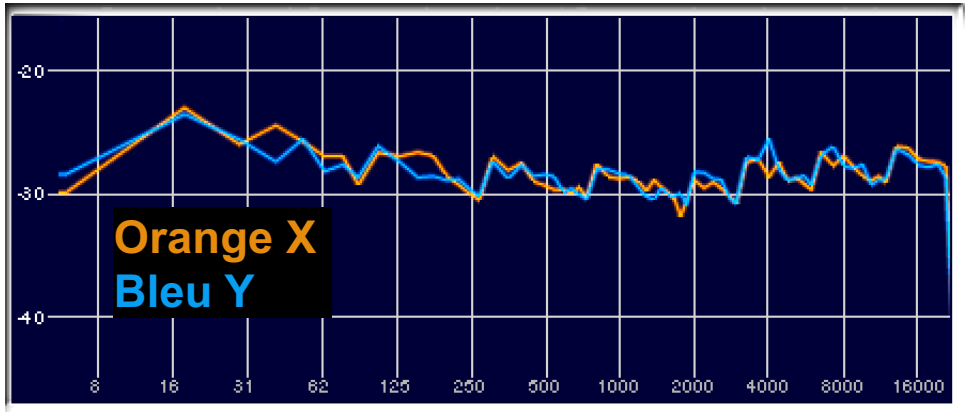
Bruit Rose

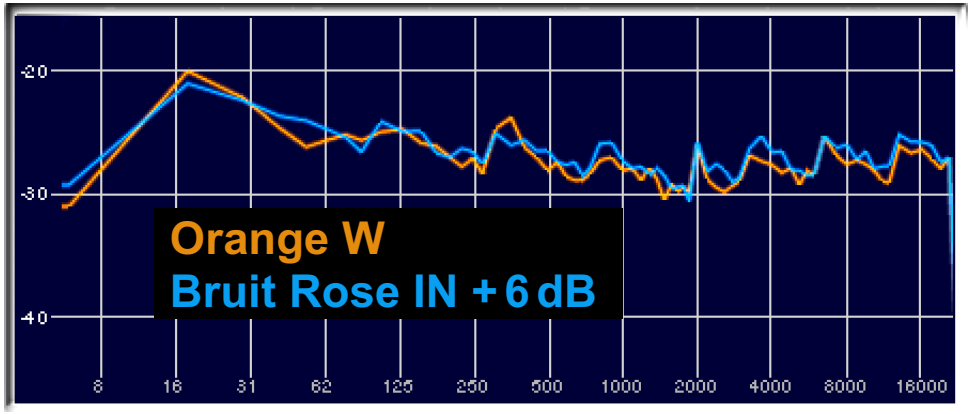






W ≠ YZX
W ≈ Bruit Rose



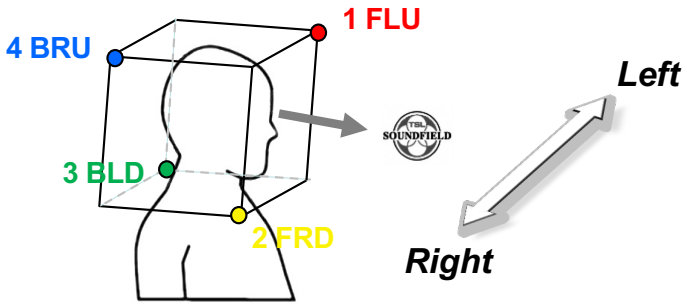


FORMAT A

SOUNDFIELD BY RØDE
VERSION 1.0.4

Matriçages :

FORMAT B

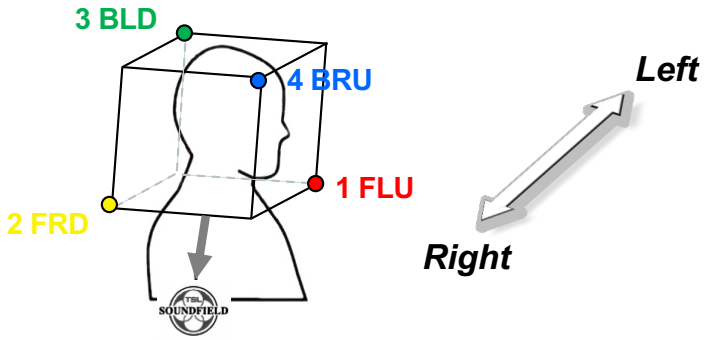


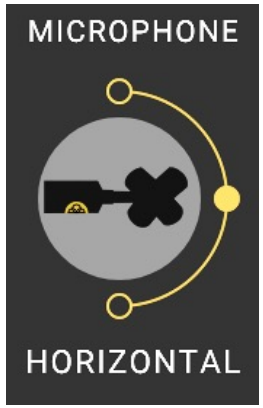
W = FLU + FRD + BLD + BRU

X = FLU + FRD - (BLD + BRU)

Y = FLU + BLD - (FRD + BRU)

Z = FLU + BRU - (FRD + BLD)



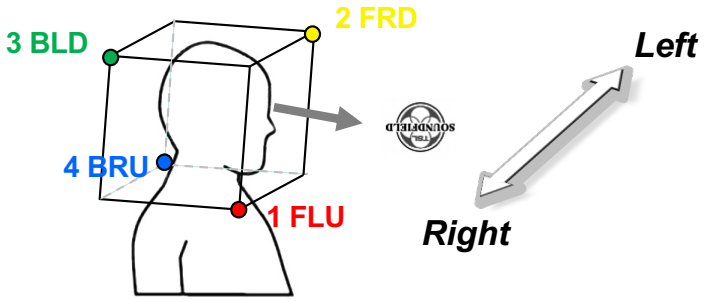


W = FLU + FRD + BLD + BRU

X = FLU + BRU - (FRD + BLD)

Y = FLU + BLD - (FRD + BRU)

Z = BLD + BRU - (FLU + FRD)



W = FLU + FRD + BLD + BRU

X = FLU + FRD - (BLD + BRU)

Y = BRU + FRD - (BLD + FLU)

Z = BLD + FRD - (FLU + BRU)

Soundfield by RØDE

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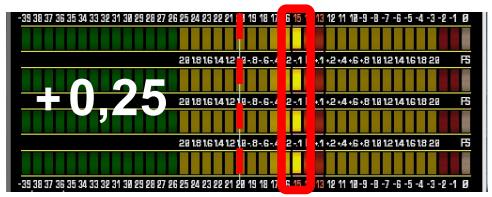
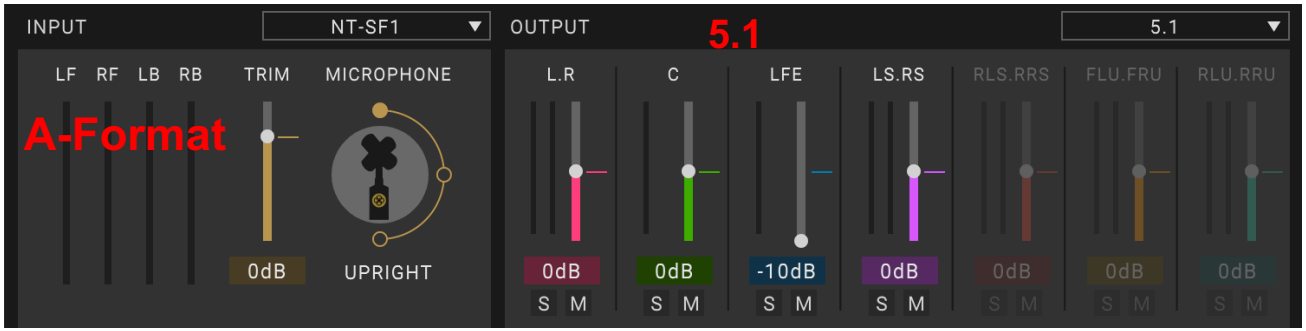
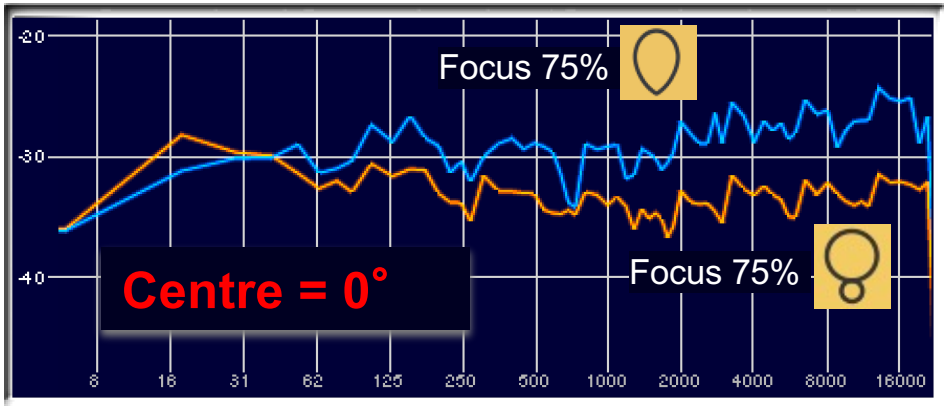
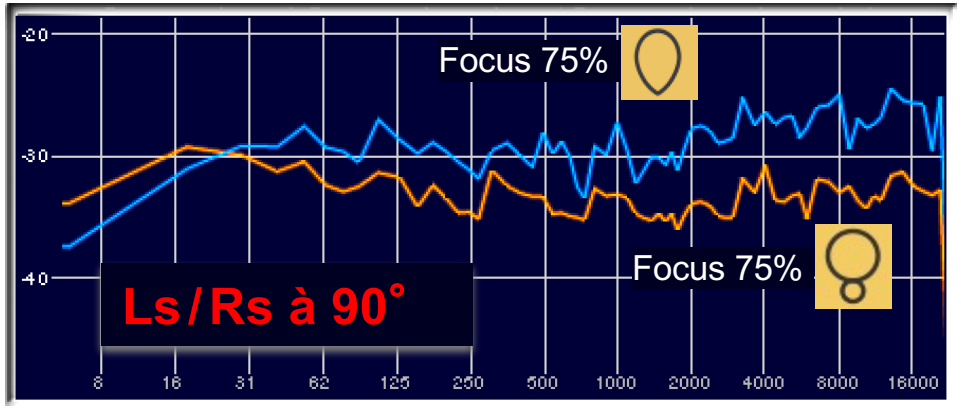


-1 +0 +1

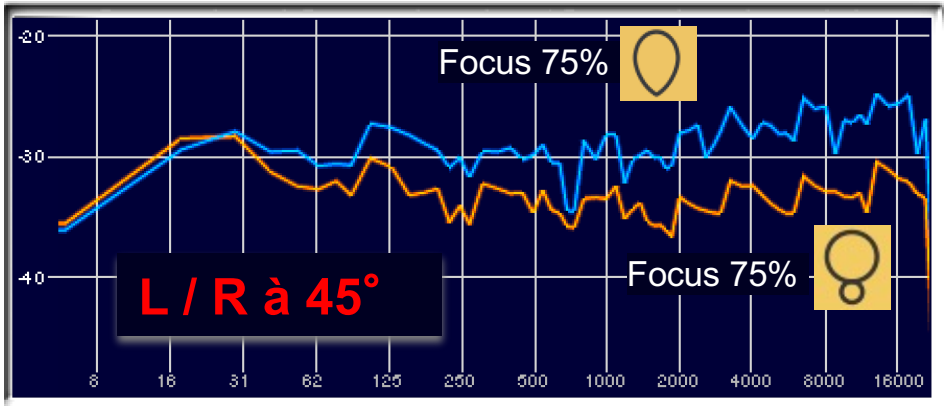
Bruit Rose

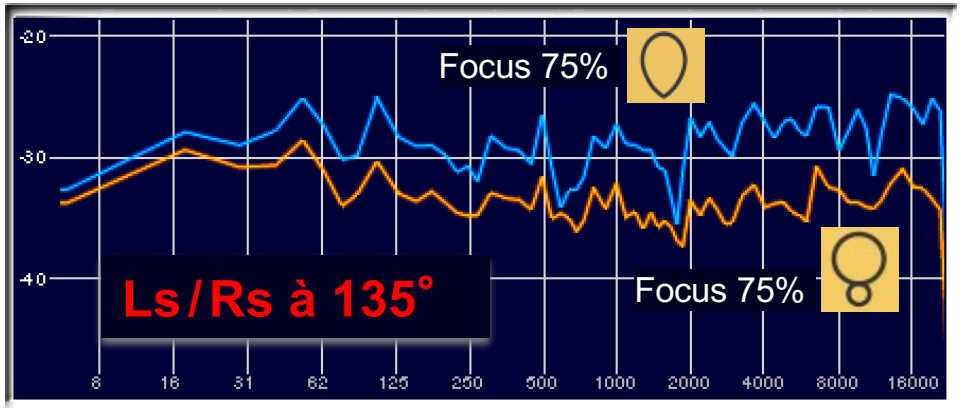






Passer de à du gain de +4 à +5 dB !!





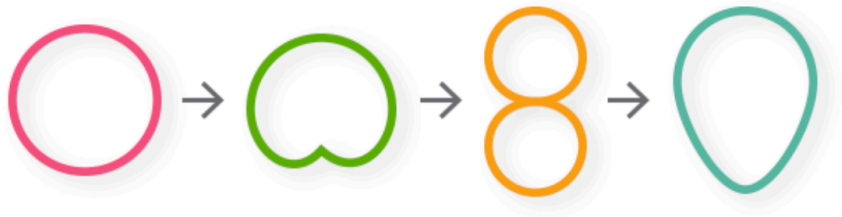
SOUNDFIELD BY RØDE
VERSION 1.0.4

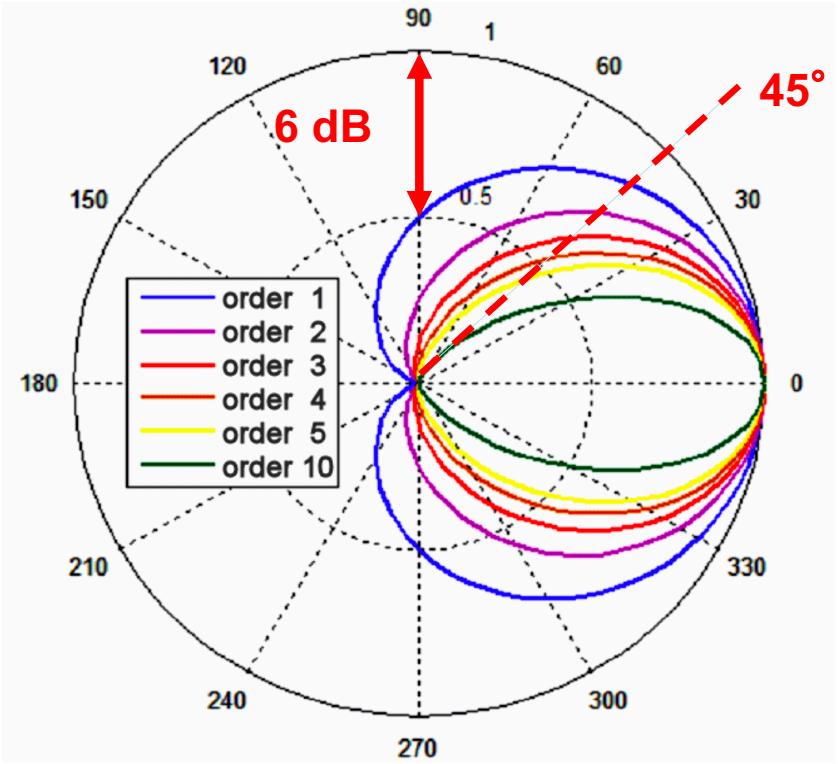
V1.0.4

https://fr.rode.com/soundfieldplugin

Au-delà des cardioïdes…

Doc RØDE



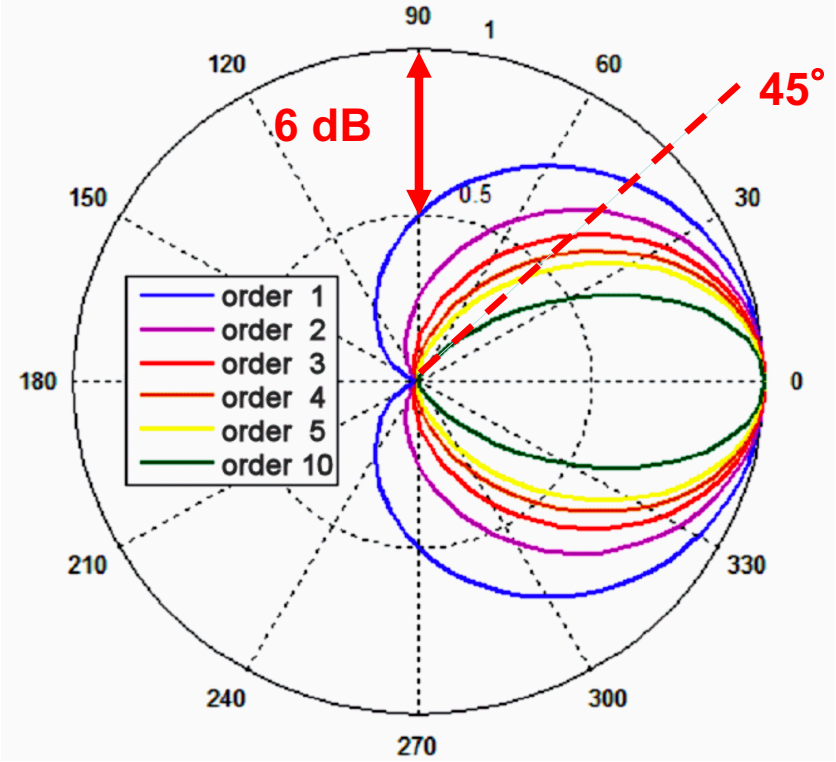


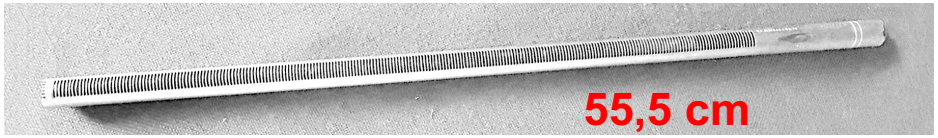
Avoir la possibilité de changer le motif polaire des microphones virtuels en post-production est une caractéristique bien connue de l'ambisonique permettant à l'utilisateur de tout créer, de l'omni au cardioïde en passant par les schémas fig-8.

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 **beamforming**. Cela offre une nouvelle dimension dans la mise en forme et le contrôle du son.

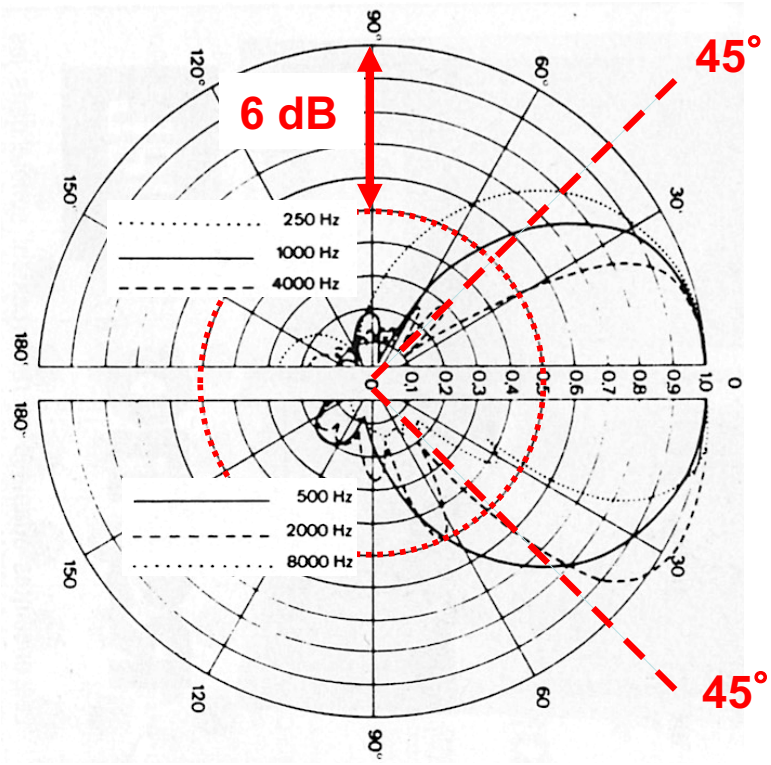
Interpolation aux ordres supérieurs (ordre 2 ou +) ?

Ordres supérieurs
Cardioïdes





Sennheiser MKH816



0VU magazine n°16
Septembre 1982

V 1.0.4

Soundfield by RØDE

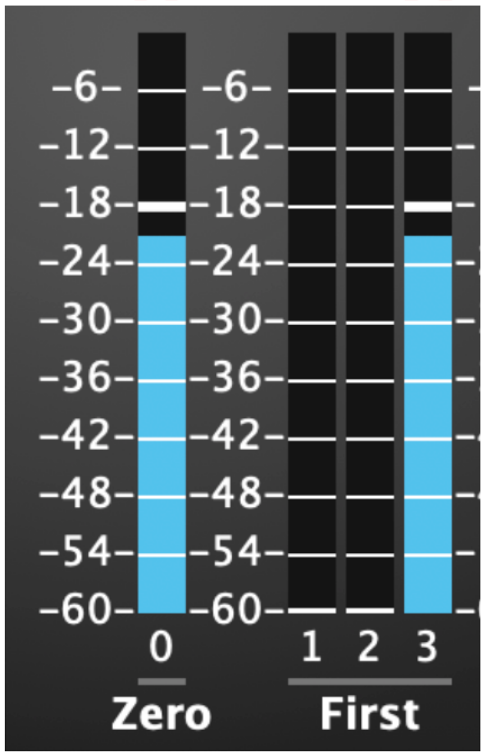
SSAaXMeter

https://www.ssa-plugins.com/

IN : 1 KHz

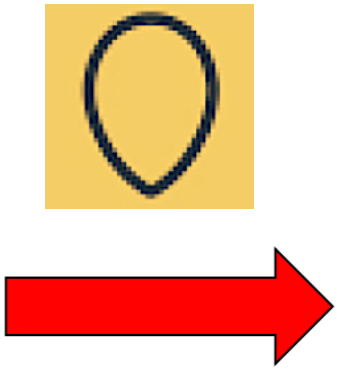
B-FORMAT

W X



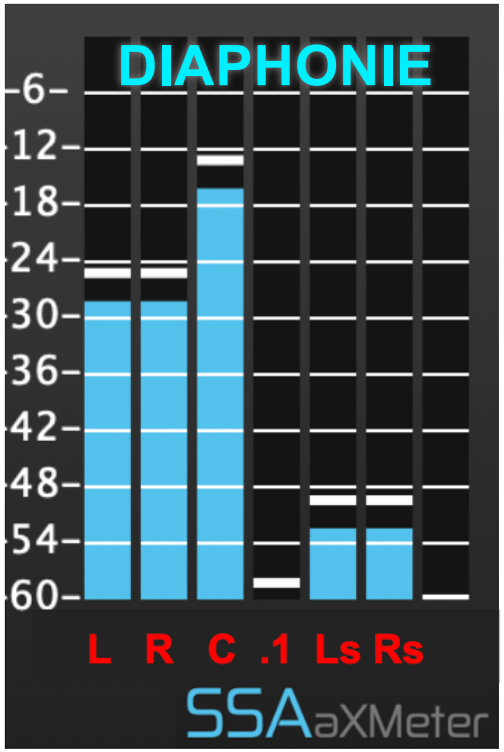
Centre C

Beamforming



OUT : 1 KHz

5.1 ITU



Soundfield by RØDE

V 1.0.4

MAX 100% FOCUS

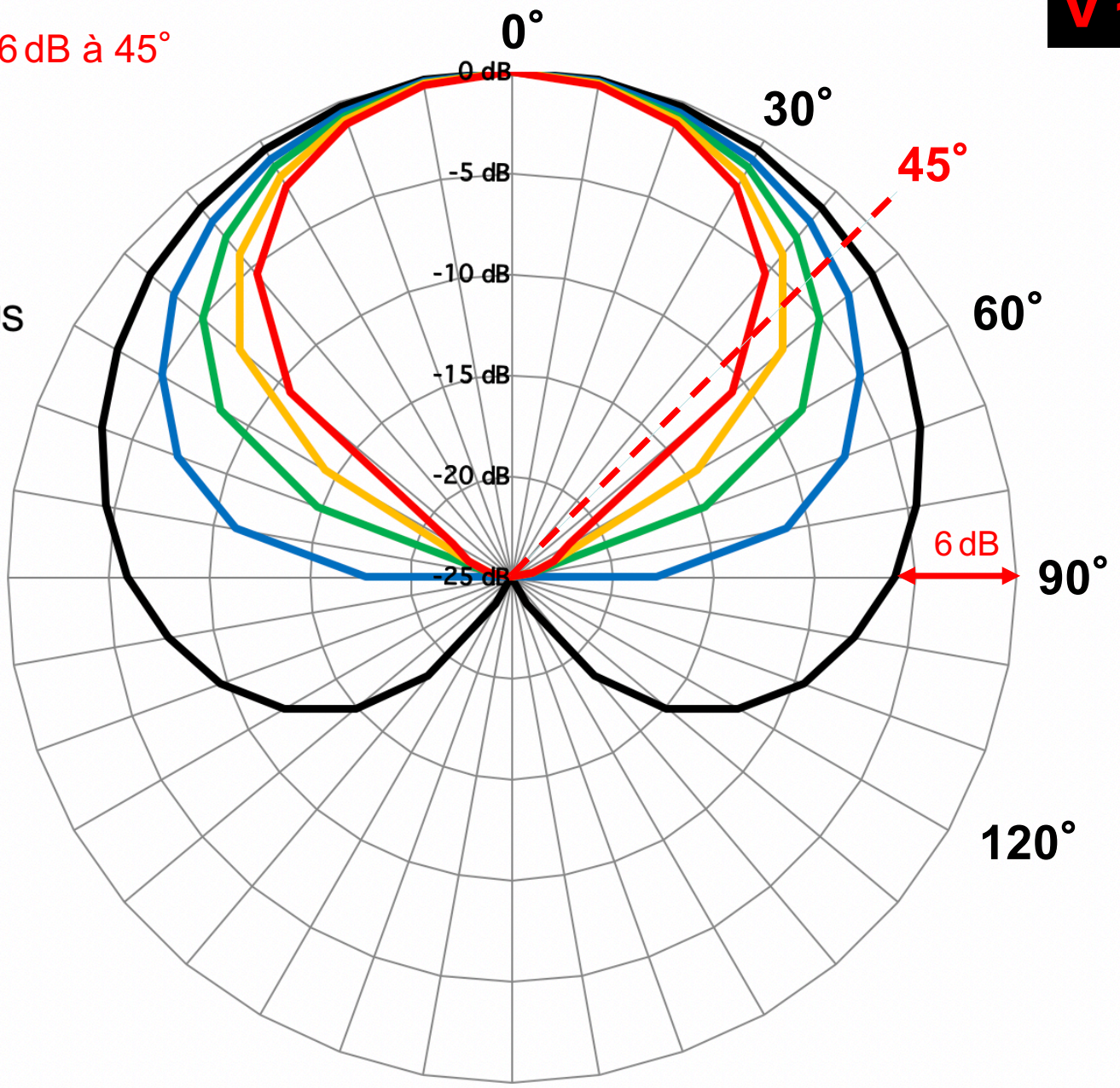
75% FOCUS -6 dB à 45°

50% FOCUS

25% FOCUS

MINI 0% FOCUS

CARDIO



AFNOR tome 1 1982

NF S 31-009 ANNEXE B

SOMME

=1/((((0,017*(10^(B2/20))^2)+(0,1294*(10^(B3/20))^2)+(0,2241*(10^(B4/20))^2)+(0,2588*(10^(B5/20))^2)+(0,2241*(10^(B6/20))^2)
+(0,1294*(10^(B7/20))^2)+(0,017*(10^(B8/20))^2))/2)+(((0,017*(10^(B8/20))^2)+(0,1294*(10^(B9/20))^2)+(0,2241*(10^(B10/20))^2)
+(0,2588*(10^(B11/20))^2)+(0,2241*(10^(B12/20))^2)+(0,1294*(10^(B13/20))^2)+(0,017*(10^(B2/20))^2))/2))

Source à :	Données		Directivité	
0° >>	0,0	dB	Index de directivité	
30° >>	-0,6	dB	Di =	4,7 dB
60° >>	-2,5	dB		
90° >>	-6,0	dB	Coef de directivité	
120° >>	-12,0	dB	Q =	3,0
150° >>	-18,0	dB		
180° >>	-25,0	dB		
210° >>	-18,0	dB		
240° >>	-12,0	dB	Rapport de capture	
270° >>	-6,0	dB	Q^(1/2) =	1,7
300° >>	-2,5	dB		
330° >>	-0,6	dB		

CARDIOÏDE
ou FOCUS 0%
1er Ordre

Logiciel sous Excel® à télécharger :

https://www.lesonbinaural.fr/EDIT/EXCEL/DIRECTIVITE POLAIRE.xls

Q=1/((((0,017*(10^(B2/20))^2)+(0,1294*(10^(B3/20))^2)+(0,2241*(10^(B4/20))^2)+(0,2588*(10^(B5/20))^2)+(0,2241*(10^(B6/20))^2)+(0,1294*(10^(B7/20))^2)+(0,017*(10^(B8/20))^2))/2)+(((0,017*(10^(B8/20))^2)+(0,1294*(10^(B9/20))^2)+(0,2241*(10^(B10/20))^2)+(0,2588*(10^(B11/20))^2)+(0,2241*(10^(B12/20))^2)+(0,1294*(10^(B13/20))^2)+(0,017*(10^(B2/20))^2))/2))

Soundfield by RØDE

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DI : INDEX DE DIRECTIVITE

(Rapport de capture = Facteur de distance FD)

25% FOCUS

Source à :	Données		Directivité
0° >>	0,0	dB	Index de directivité
30° >>	-1,1	dB	Di = 7,1 dB
60° >>	-5,0	dB	
90° >>	-17,8	dB	
120° >>	-25,0	dB	Coef de directivité
150° >>	-25,0	dB	
180° >>	-25,0	dB	Q = 5,2
210° >>	-25,0	dB	
240° >>	-25,0	dB	Rapport de capture
270° >>	-17,8	dB	
300° >>	-5,0	dB	Q^(1/2) = 2,3
330° >>	-1,1	dB	

50% FOCUS

Source à :	Données		Directivité
0° >>	0,0	dB	Index de directivité
30° >>	-1,6	dB	Di = 8,5 dB
60° >>	-8,4	dB	
90° >>	-25,0	dB	
120° >>	-25,0	dB	Coef de directivité
150° >>	-25,0	dB	
180° >>	-25,0	dB	Q = 7,1
210° >>	-25,0	dB	
240° >>	-25,0	dB	Rapport de capture
270° >>	-25,0	dB	
300° >>	-8,4	dB	Q^(1/2) = 2,7
330° >>	-1,6	dB	

75% FOCUS

Source à :	Données		Directivité
0° >>	0,0	dB	Index de directivité
30° >>	-2,1	dB	Di = 9,7 dB
60° >>	-14,3	dB	
90° >>	-25,0	dB	
120° >>	-25,0	dB	Coef de directivité
150° >>	-25,0	dB	
180° >>	-25,0	dB	Q = 9,3
210° >>	-25,0	dB	
240° >>	-25,0	dB	Rapport de capture
270° >>	-25,0	dB	
300° >>	-14,3	dB	Q^(1/2) = 3,1
330° >>	-2,1	dB	

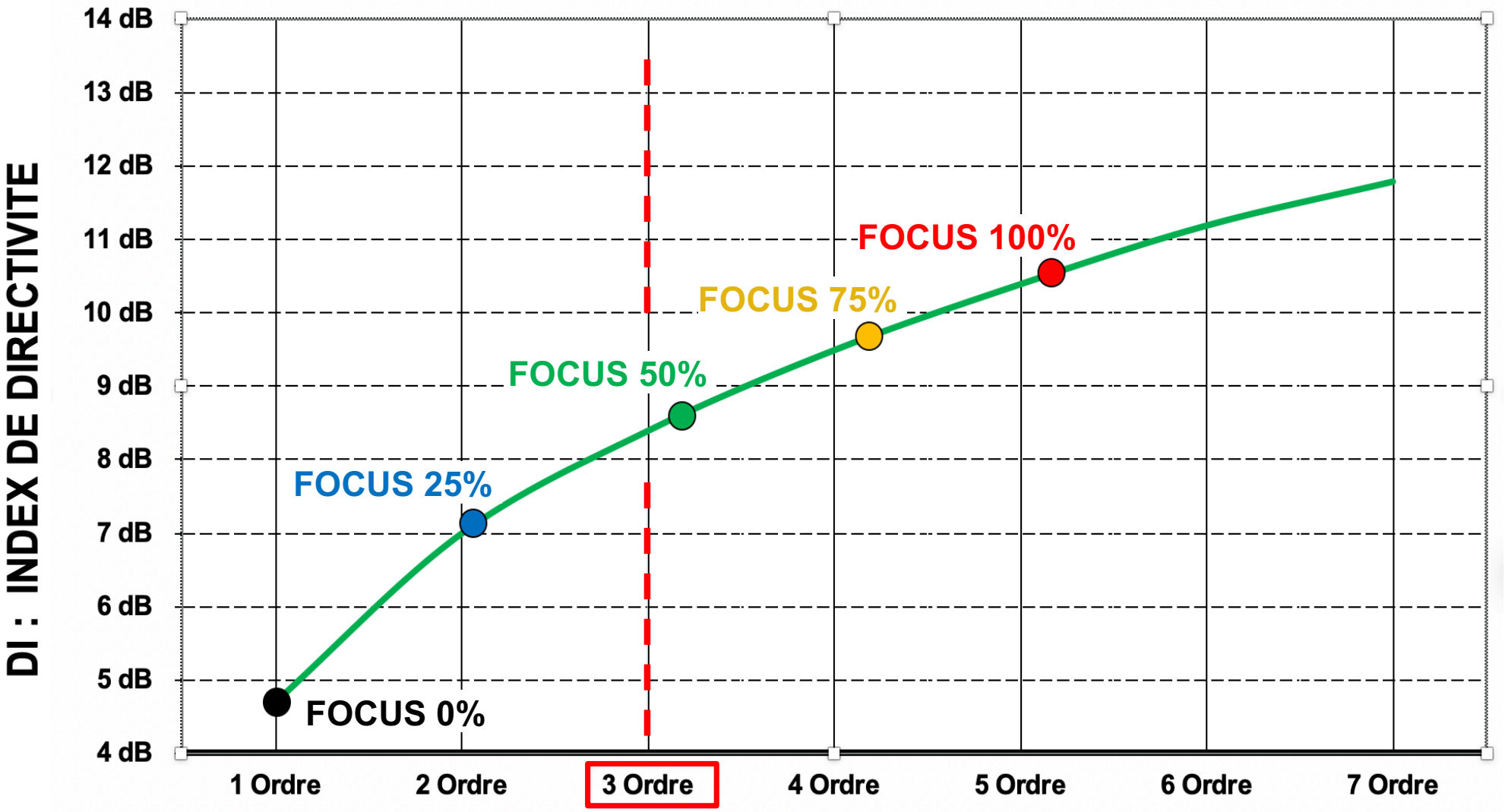
MAX 100% FOCUS

Source à :	Données		Directivité
0° >>	0,0	dB	Index de directivité
30° >>	-2,7	dB	Di = 10,5 dB
60° >>	-21,7	dB	
90° >>	-25,0	dB	
120° >>	-25,0	dB	Coef de directivité
150° >>	-25,0	dB	
180° >>	-25,0	dB	Q = 11,1
210° >>	-25,0	dB	
240° >>	-25,0	dB	Rapport de capture
270° >>	-25,0	dB	
300° >>	-21,7	dB	Q^(1/2) = 3,3
330° >>	-2,7	dB	

V 1.0.4

Soundfield by RØDE

Algorithme paramétrique :



Soundfield by RØDE

5.1

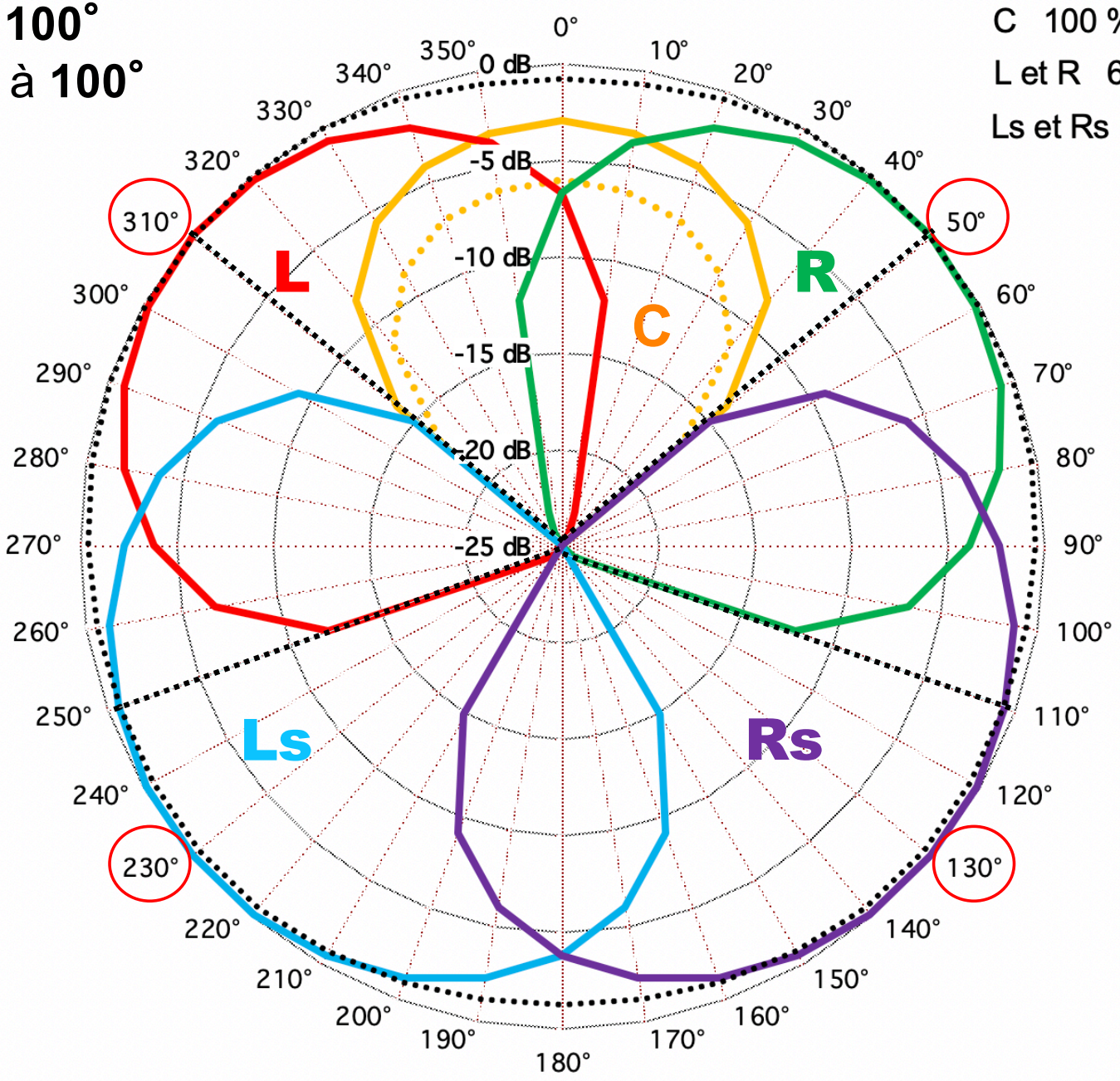
L / R à 100°

Ls / Rs à 100°

C 100 % FOCUS

L et R 67% FOCUS

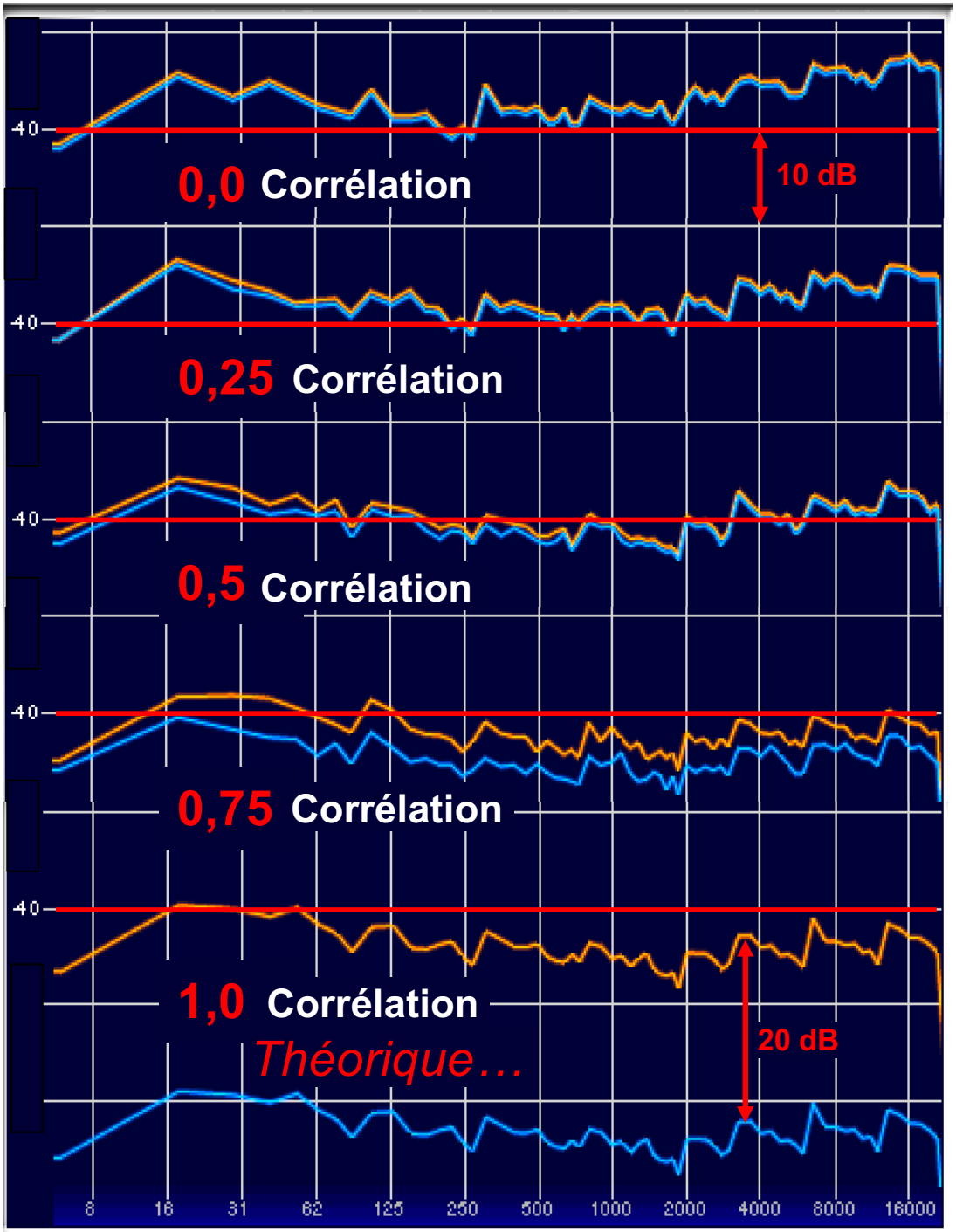
Ls et Rs 33 % FOCUS



V 1.0.4

V 1.0.4

Soundfield by RØDE



Focus **0%**

Focus **100%**

Problème !!

Variation du niveau sonore en fonction de la corrélation des signaux en Input :

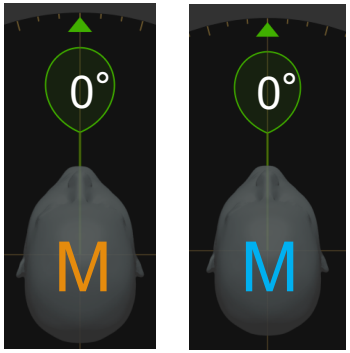
La corrélation ↗ le niveau ↘

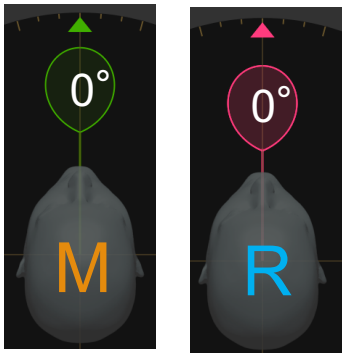
↳ **Baisse de niveau sur certaines sources…**

Lié à la technologie "Tétraèdre" du B-Format ?

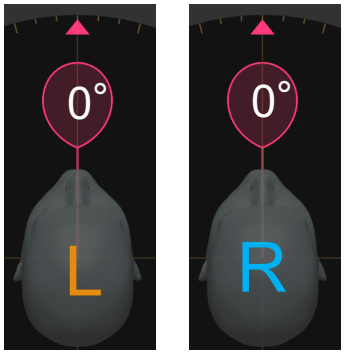
V 1.0.4

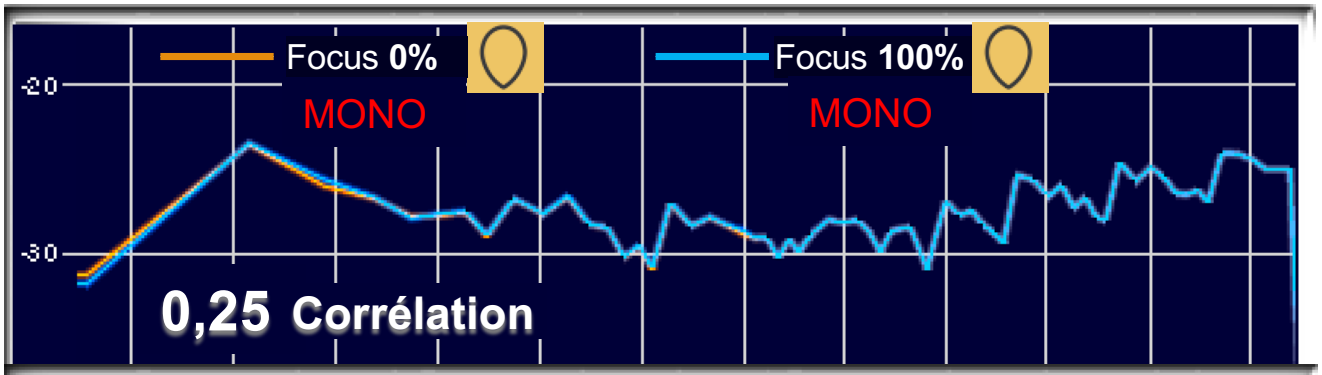
Soundfield by RØDE

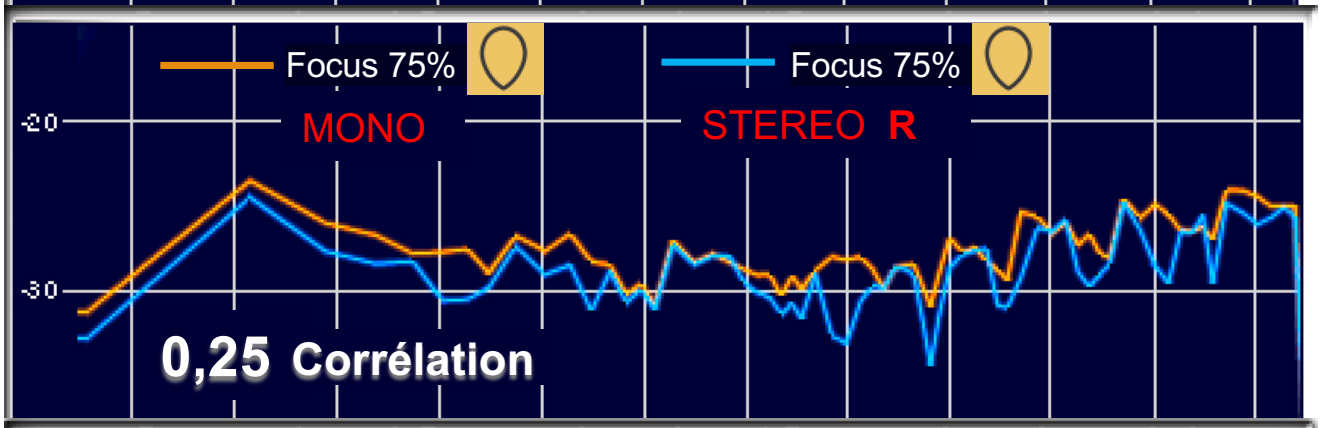


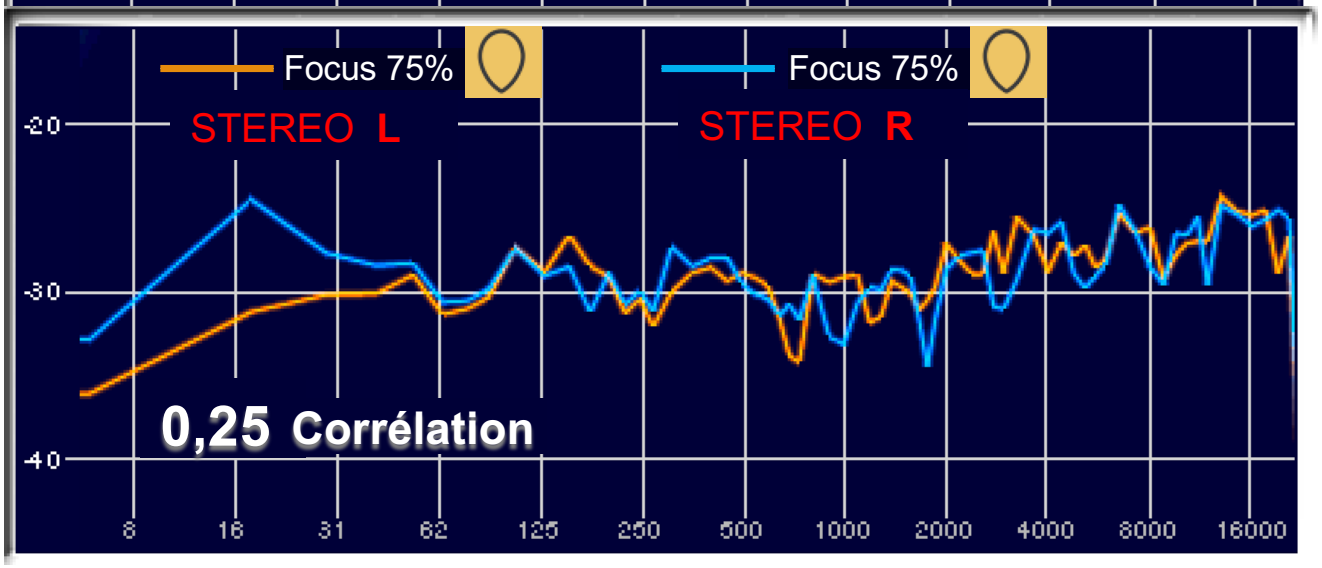


L et R (St) superposés au Centre





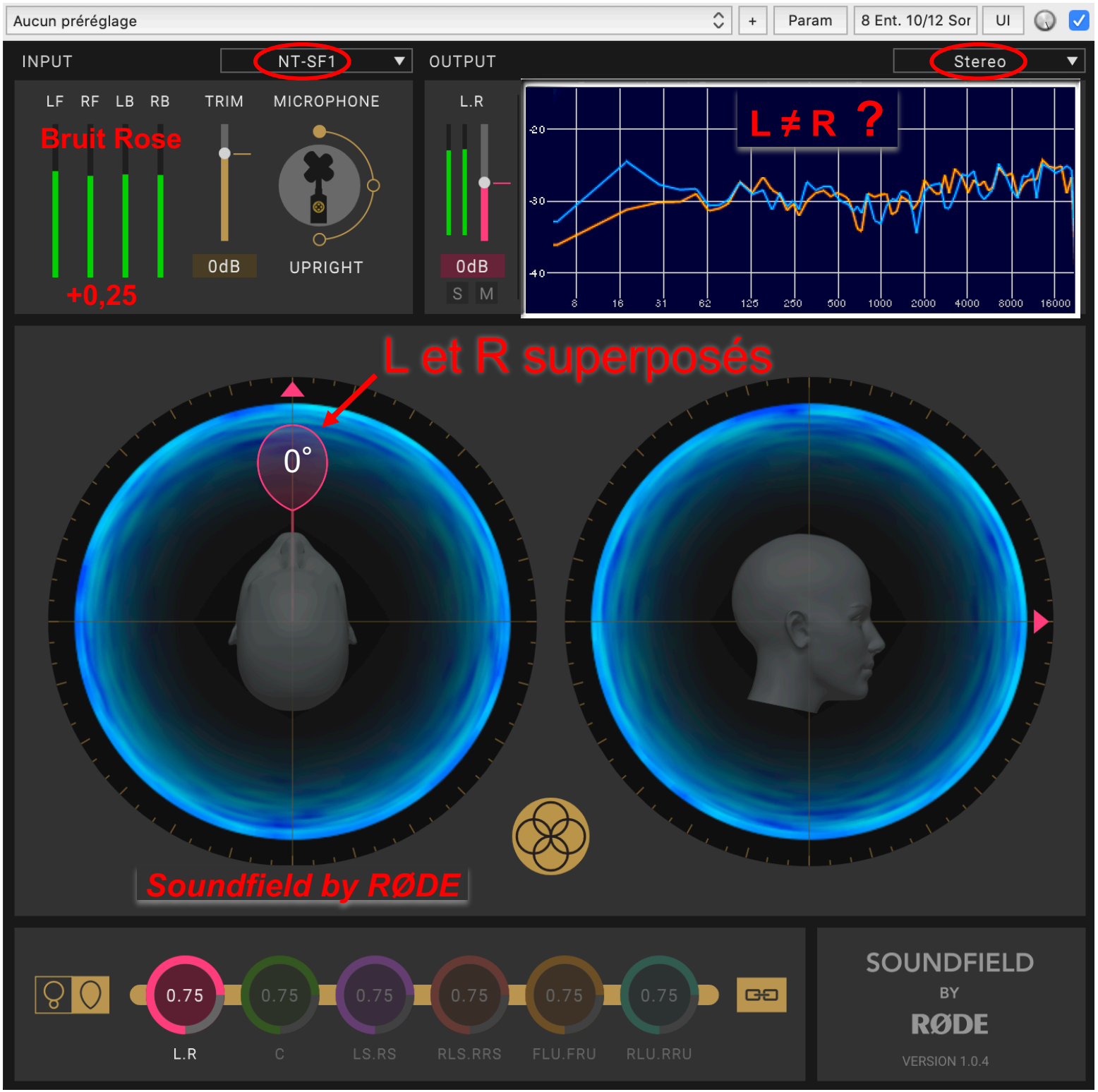




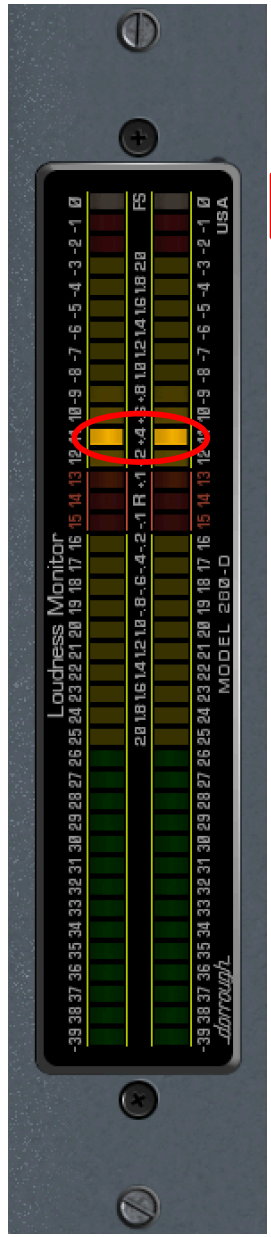
Aucune variation de niveau avec le Focus …

Déphasage

L ≠ R ?



Corrélation entre L et R

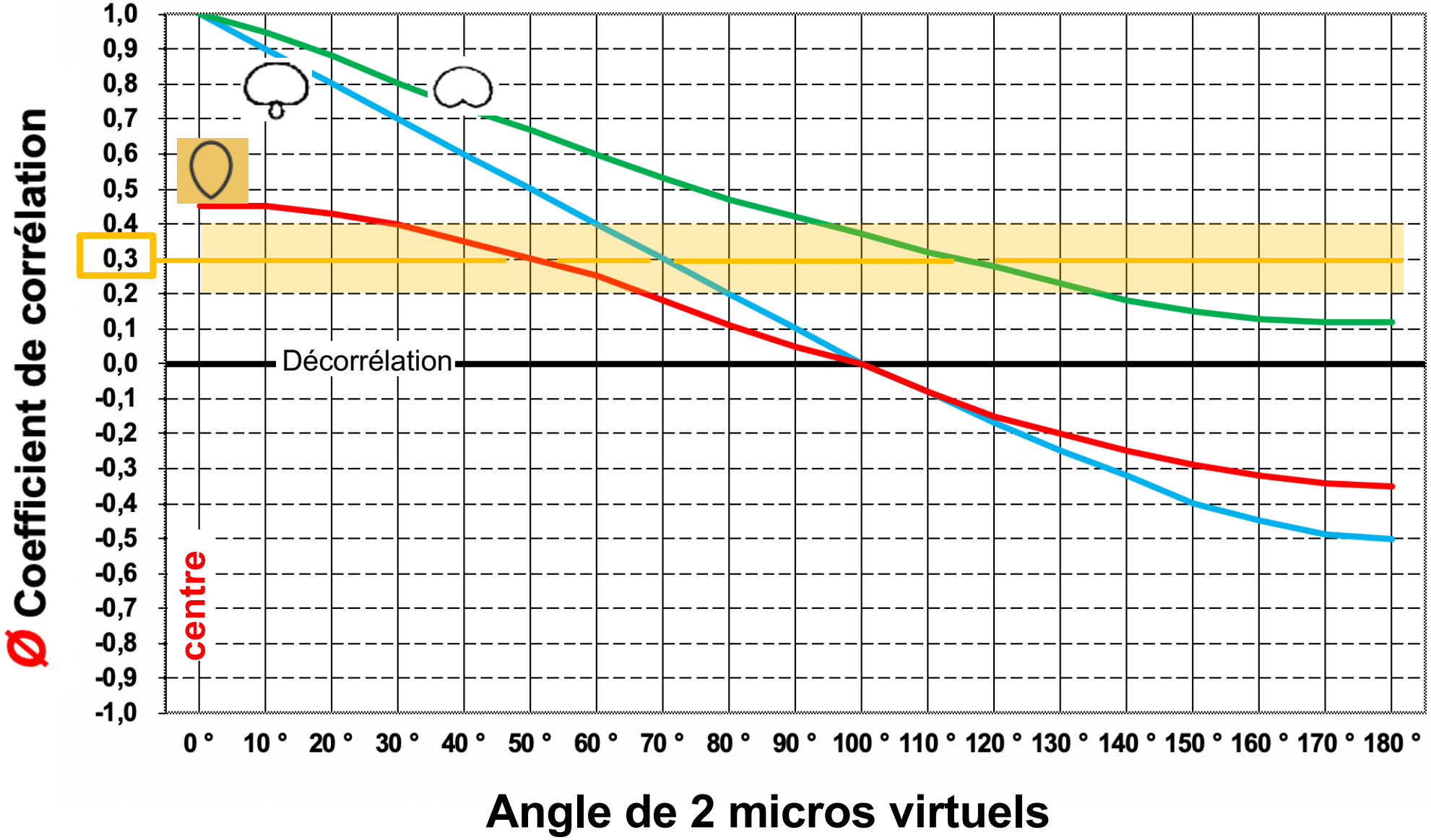


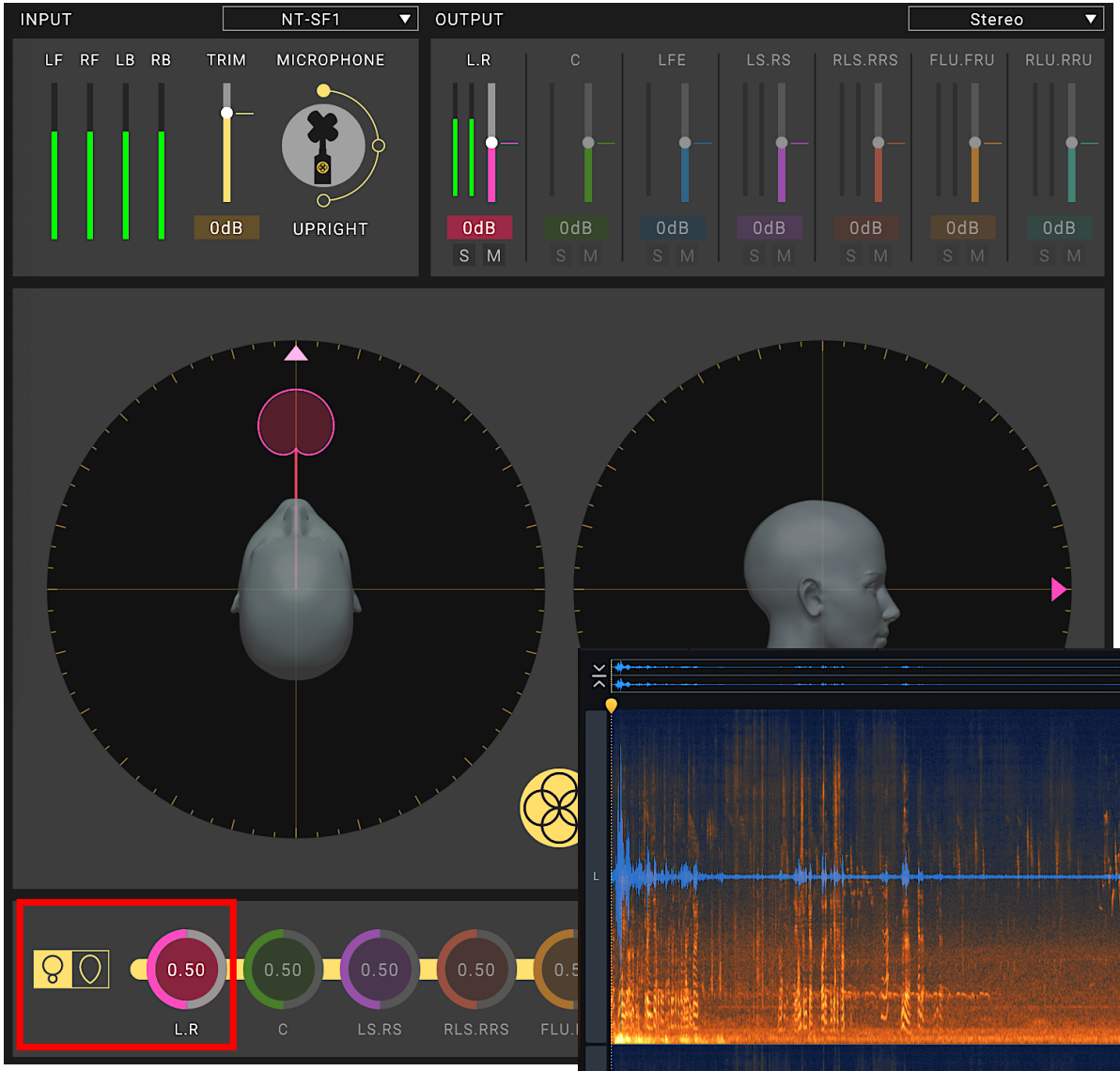
Soundfield by RØDE

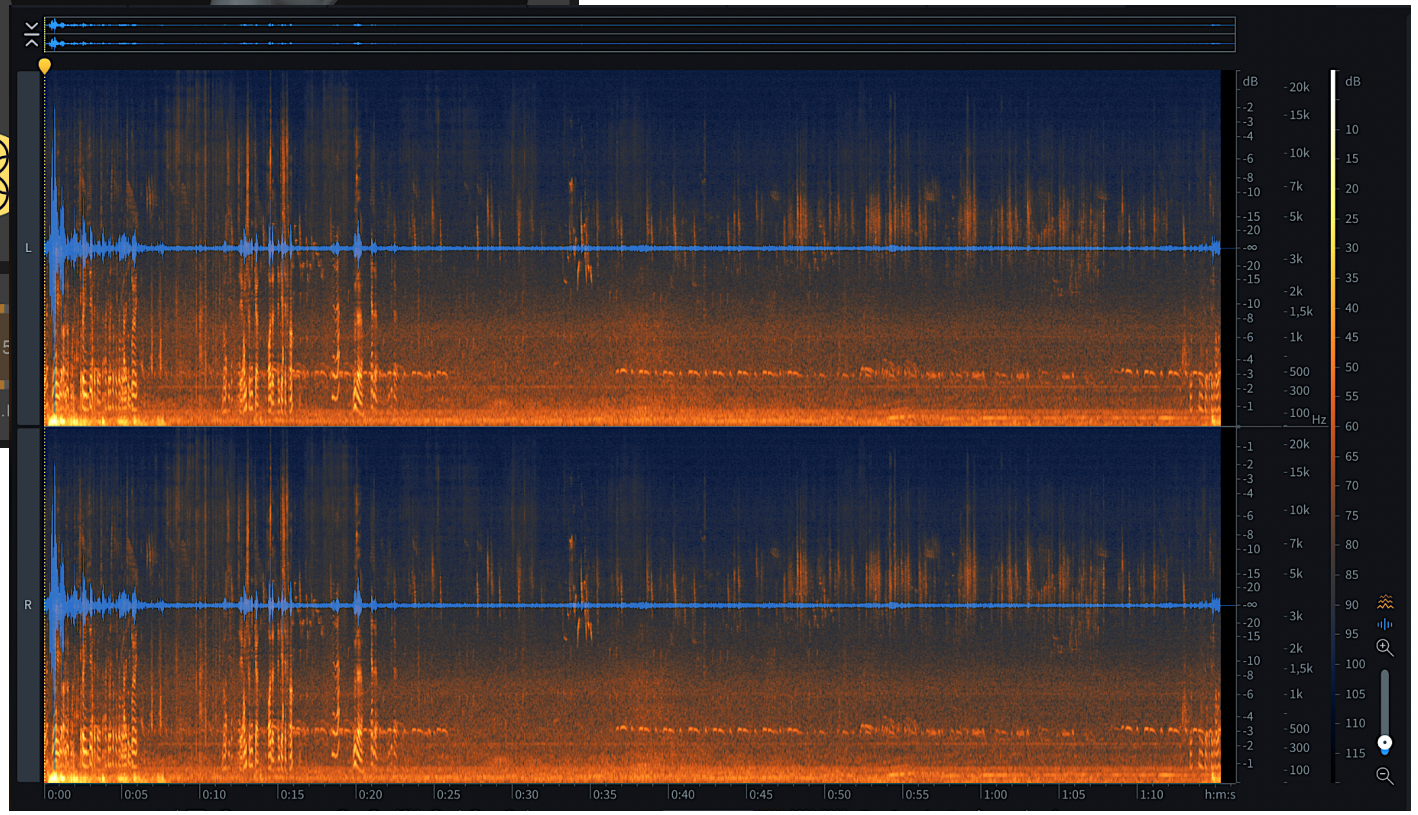
V 1.0.4

Corrélation de +0,45 à 0° ?

Corrélation *identique* quelque soit la valeur du Focus







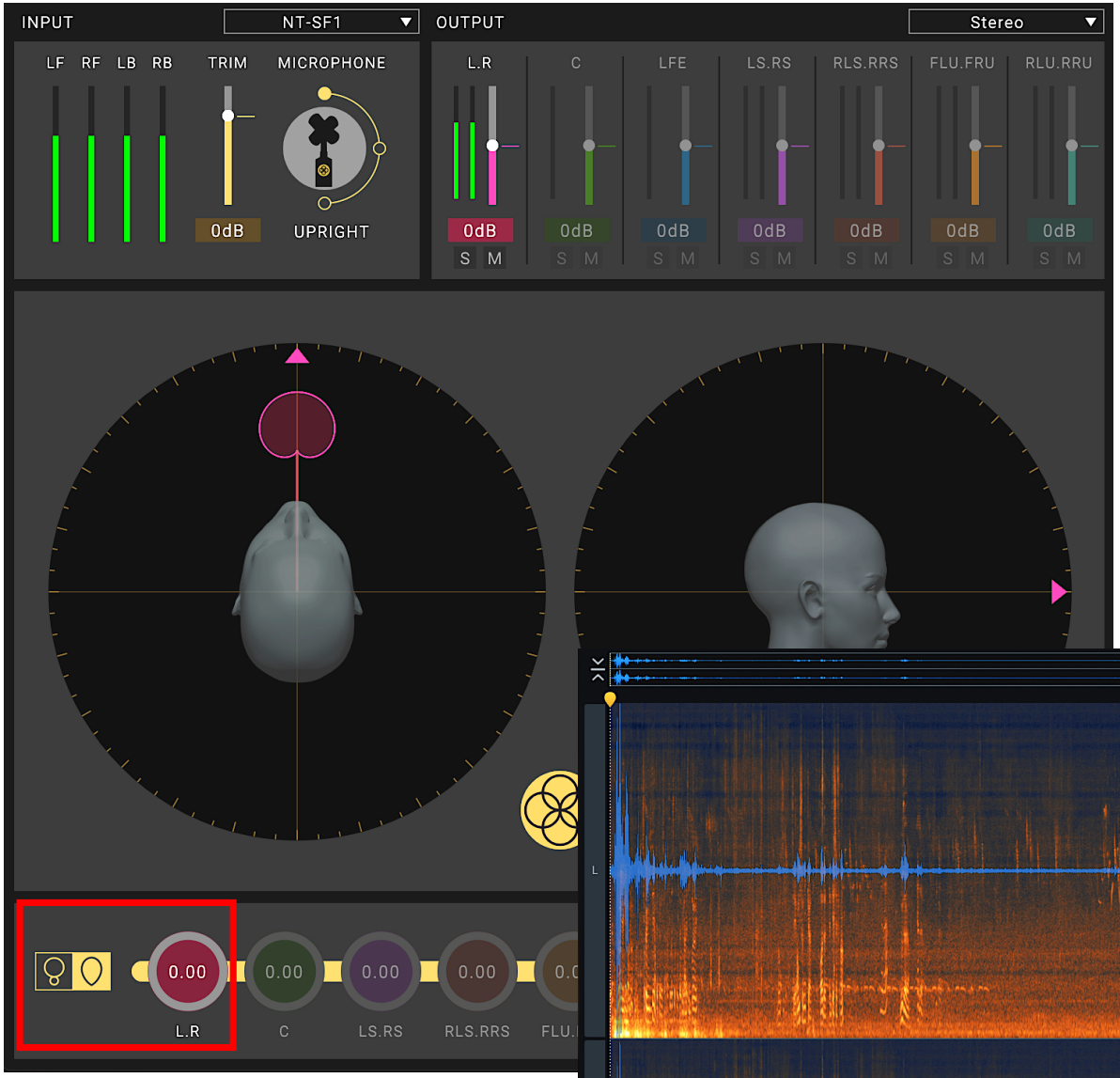
iZOTOPE
by Native Instruments

RX

SOUNDFIELD

BY

RØDE



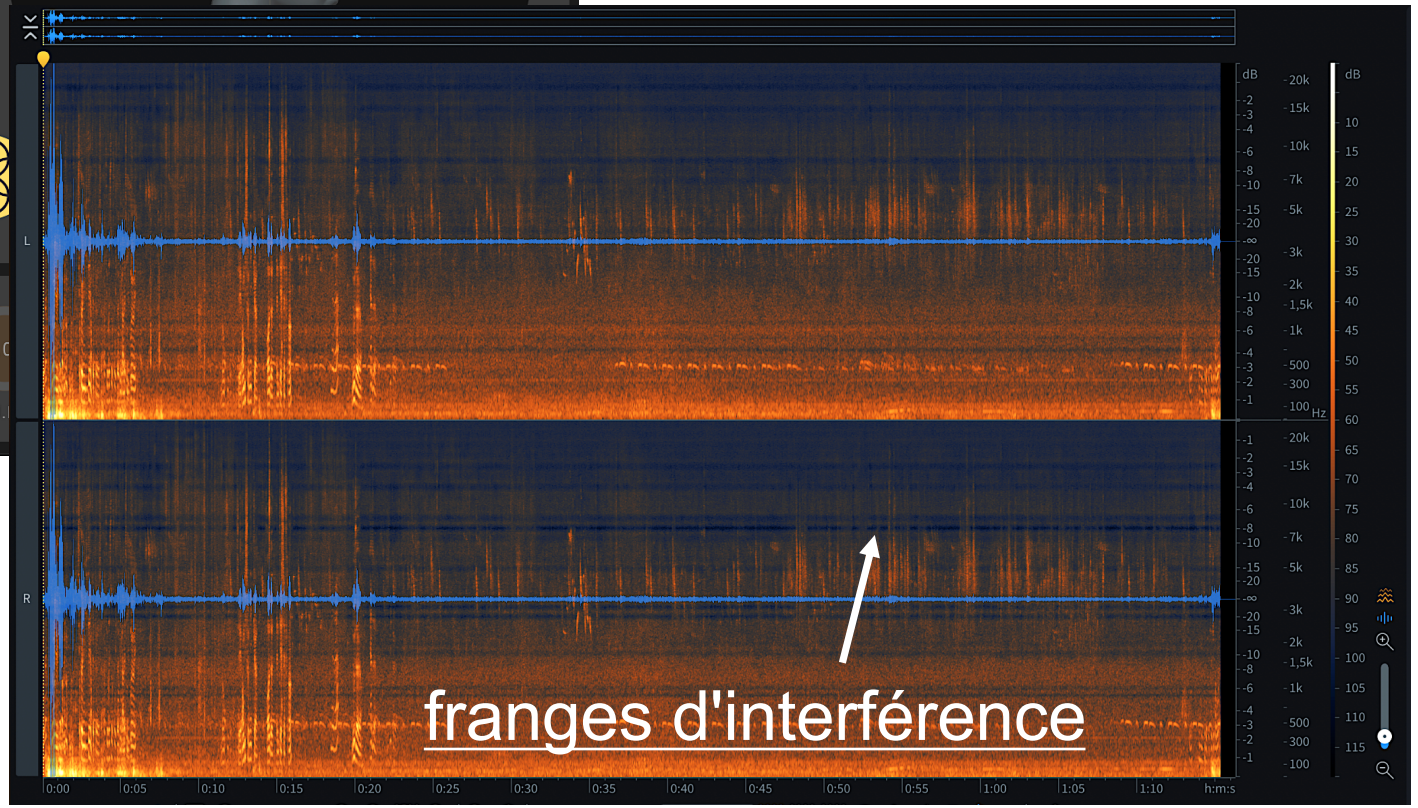
SOUNDFIELD

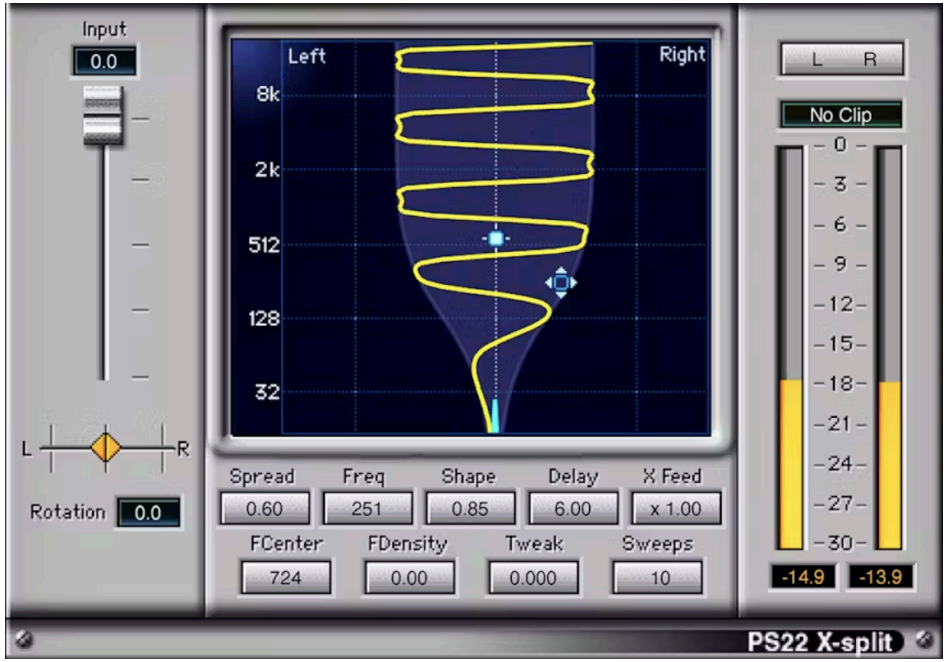
BY

RØDE

iZOTOPE
by Native Instruments

RX





Boîte à outils avancée de synthèse et d'imagerie stéréo

Le processus exclusif du PS22 donne aux sons mono une image stéréo riche, ce plugin peut agrandir facilement la largeur d'une image stéréo…

Générateur de stéréo PS22

WAVES

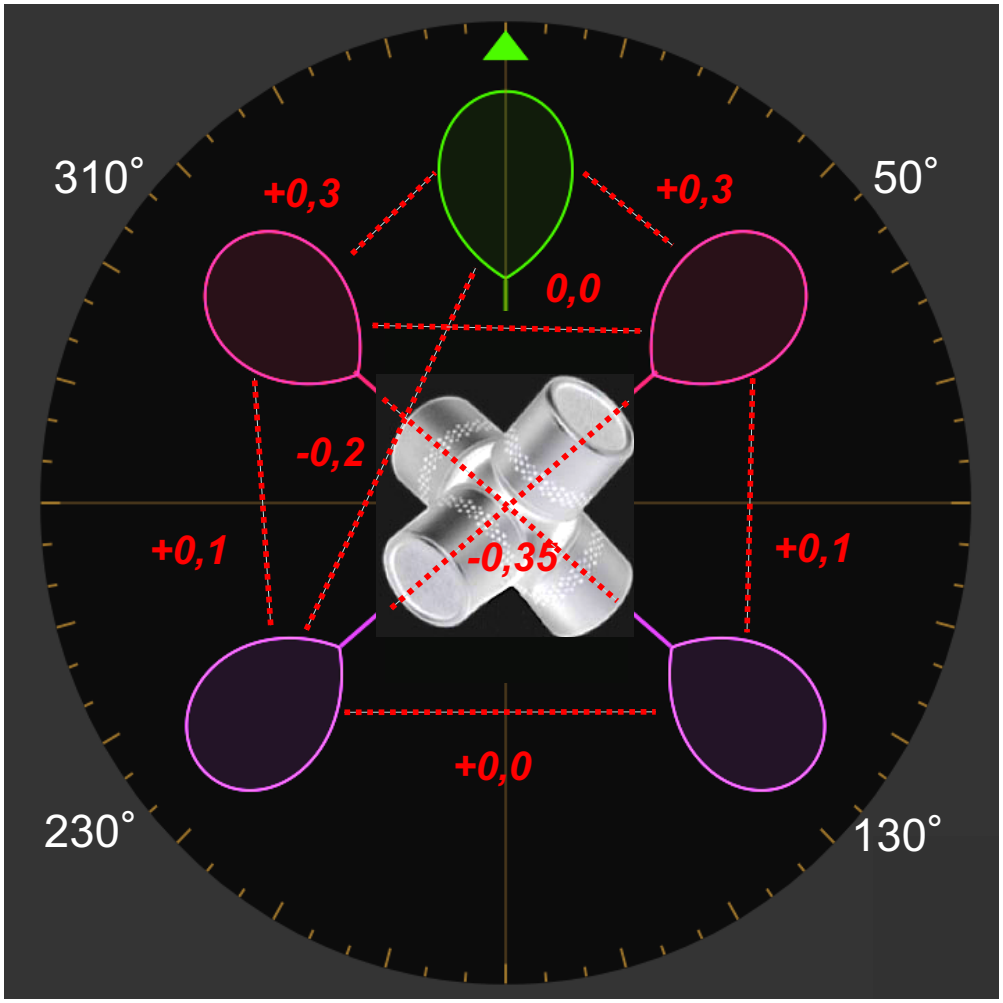
29 €

https://www.waves.com/plugins/ps22-stereo-maker

https://www.youtube.com/watch?v=rV_s3z1MxzI

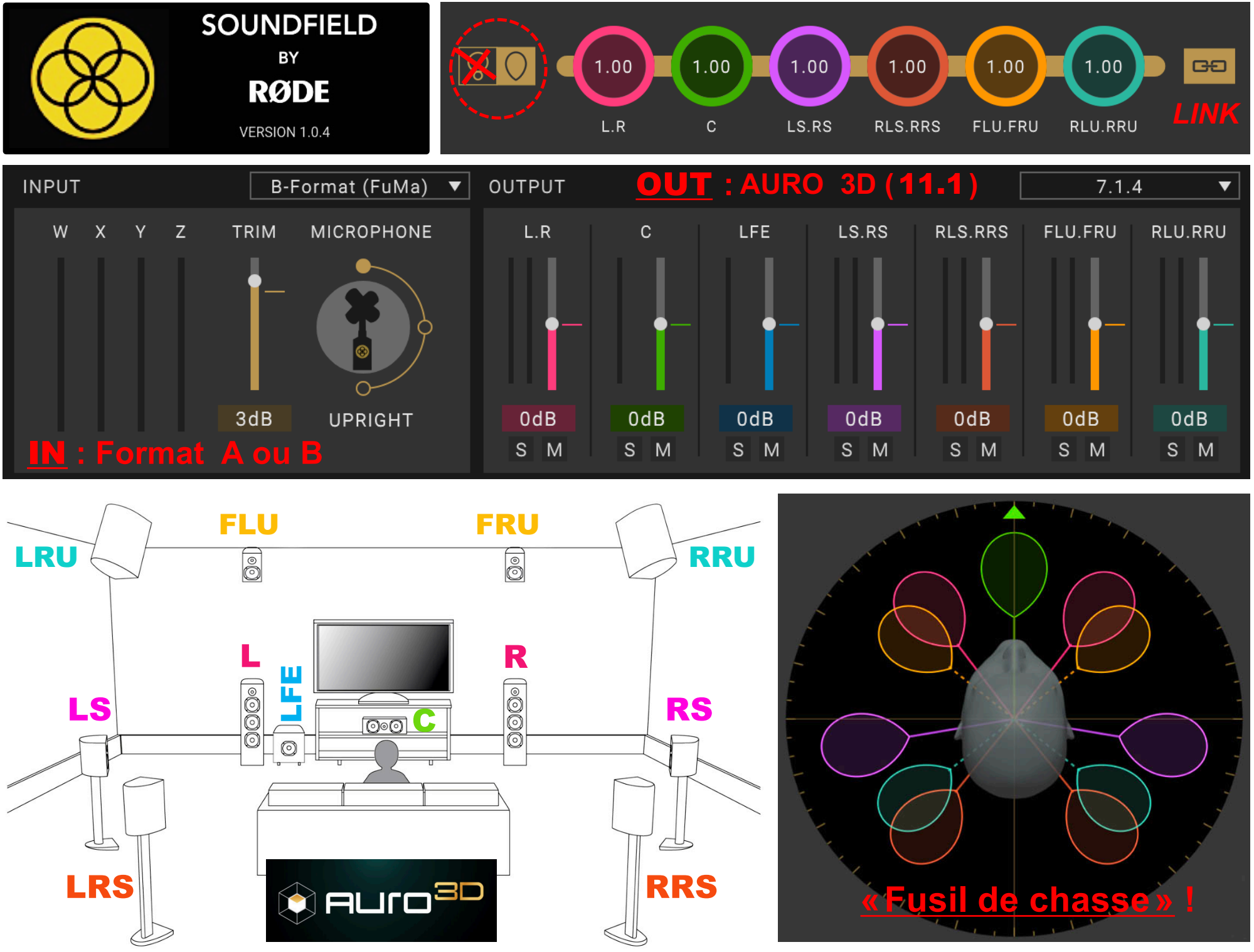
Corrélation

L/R à **100°**
Ls/Rs à **100°**



Décorrélation des canaux…

Enveloppement très large…
Peut être trop !


SOUNDFIELD
BY
RØDE
VERSION 1.0.4
1.00
1.00
1.00
1.00
1.00
1.00
L.R
C
LS.RS
RLS.RRS
FLU.FRU
RLU.RRU
LINK
INPUT
B-Format (FuMa)
OUTPUT
OUT : AURO 3D (11.1)
7.1.4
W X Y Z
TRIM
MICROPHONE
3dB
UPRIGHT
IN : Format A ou B
L.R
C
LFE
LS.RS
RLS.RRS
FLU.FRU
RLU.RRU
0dB
S M
FLU
FRU
LRU
RRU
L
R
LFE
C
LS
RS
LRS
RRS
Auro3D
« Fusil de chasse » !

Merci de votre attention

Site : **https://www.lesonbinaural.fr**

Mail : **b.lagnel@gmail.com**