SENNHEISER

Plugin Alliance

COMPARATIF *DU PLUG-IN* dearVR *pro* *AVEC LE PLUG-IN* ORBIT

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Ingénieur du son Radio France
Mai 2018

MEDIAKWEST
CINÉMA I TÉLÉVISION I COMMUNICATION ▸ UN MONDE CONNECTÉ

Sennheiser lance l'Augmented Audio Developers Program et renforce son expertise AR et VR

TOURNAGE, **AUDIO**, **POST**, **SON** // **jeudi, 10 mai 2018** // *Rédigé par Nathalie Klimberg*

Johannes Kares, Audio Experience Designer chez Sennheiser, présente l'acquisition de la société dearVR par Sennheiser © Nathalie Klimberg

MEDIAKWEST
CINÉMA I TÉLÉVISION I COMMUNICATION ▸ UN MONDE CONNECTÉ

Sennheiser a profité du SXSW en mars dernier pour dévoiler ses ambitions en matière de solutions de réalité audio augmentée, le constructeur s'appuiera notamment sur des sociétés tierces. Sennheiser a également officialisé programme AMBEO Augmented Audio Developers Program...

Sennheiser qui souhaite se positionner en tant qu'acteur du futur de l'audio, notamment dans l'univers du son immersif a donné le coup d'envoi de son programme AMBEO Augmented Audio Developers Program au salon South by Southwest (SXSW) à Austin, au Texas. Pour créer leur application de réalité audio augmentée, les candidats retenus ont accès en avant-première et gratuitement à du matériel et à des logiciels de production de pointe.

Souhaitant renforcer sa position de leader du marché des solutions audio immersives et se positionner sur le segment du marché de la spatialisation audio dans les univers de réalité augmenté, Sennheiser vient également d'investir dans Dear Reality, une société allemande spécialisée dans les algorithmes de spatialisation audio et des logiciels de réalité audio virtuelle/augmentée (VR/AR). Le leader de l'audio a aussi investi dans Sonic Emotion, un éditeur de solutions de traitement et de logiciels audio 3D qui a déjà reçu plusieurs récompenses. Ces deux sociétés apportent à Sennheiser une nouvelle expertise et des outils uniques dans le domaine de la création et de la restitution de contenus audio immersifs aux formats object-based (orienté objet) et scene-based (orienté scène).

Article rédigé par Nathalie Klimberg du 10 Mai 2018

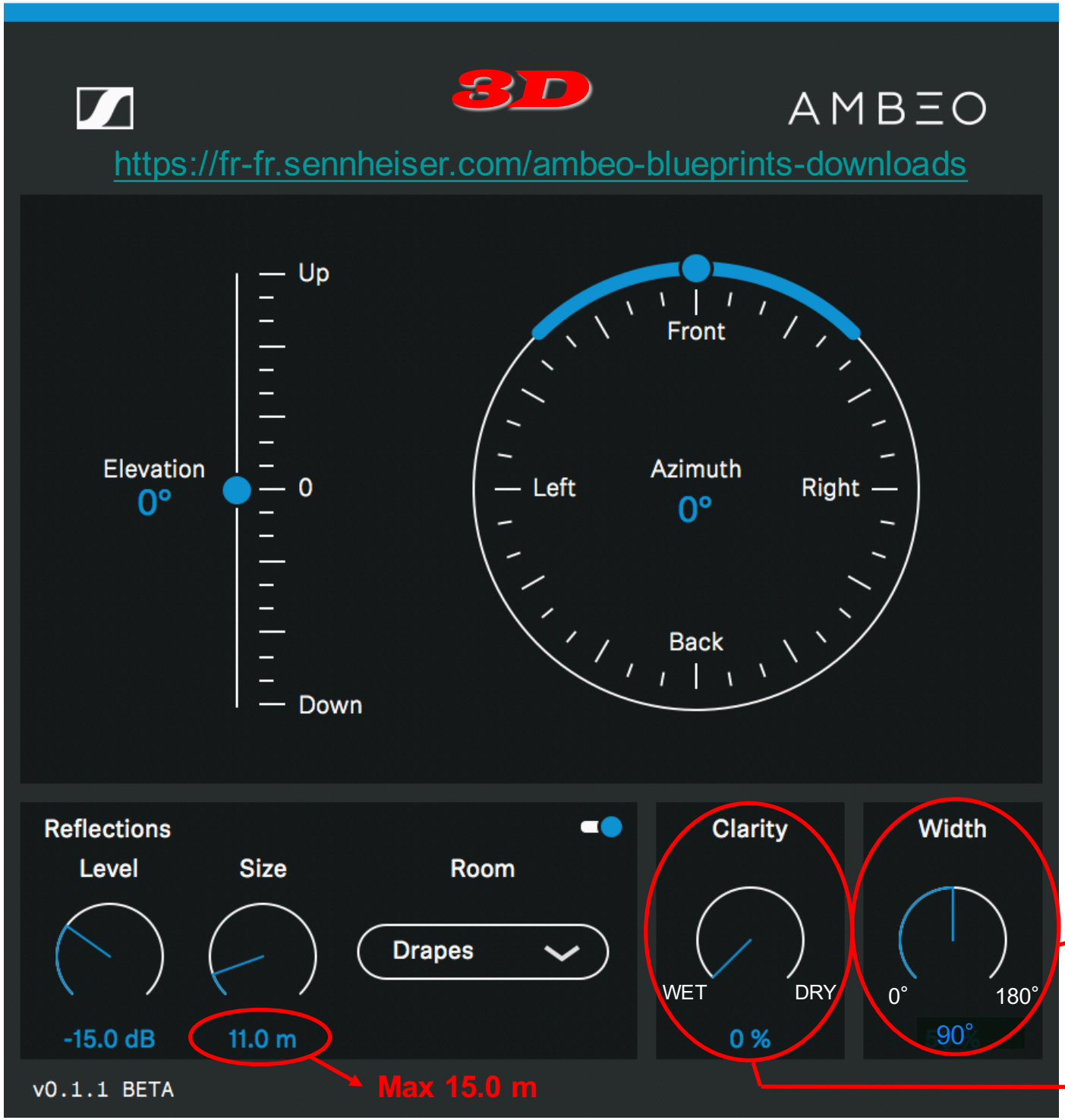
Orbit Plug-in

L'AMBEO Orbit est un plugin de panoramique binaural Sennheiser conçu pour faciliter le mixage de contenu binaural immersif.

En associant la tête **Neumann KU 100** - la référence en matière de capture binaurale - avec le nouveau plugin AMBEO Orbit, vous obtenez une flexibilité et un contrôle complets de votre enregistrement binaural. Vous pouvez désormais positionner efficacement les sources mono ou stéréo supplémentaires dans le champ sonore 3D, en évitant les colorations indésirables.

En fait, la commande brevetée de clarté vous permet de choisir l'ampleur de la coloration binaurale à appliquer. En outre, l'interface unique pour créer des réflexions de salle binaurales vous permet d'améliorer considérablement la précision spatiale par rapport à un plugin de réverbération.

Le plugin AMBEO Orbit est disponible aux formats AAX, VST, VST3 et AU pour Mac et Windows.



Orbit Plug-in

Version BETA
v 0.1.1

Modifications suggérées :

Largeur totale de la Stéréo en degré

Ajout de WET et DRY de l'effet binaural…

En 1992 : NEUMANN KU 100 (≈ 7400 €)

BATT. pile 9v -- P48. fantôme 48v -- EXT. secteur 220v.

(Sorties : 1 XLR 5 + 2 BNC)

Les Oreilles sont anthropométriques (G et D identiques pour les mesures).

2 micros du système KM 100 (circuit de sortie sans transfo)

- **Tête égalisée pour une réponse linéaire en champ diffus.**

Compatible avec haut-parleurs

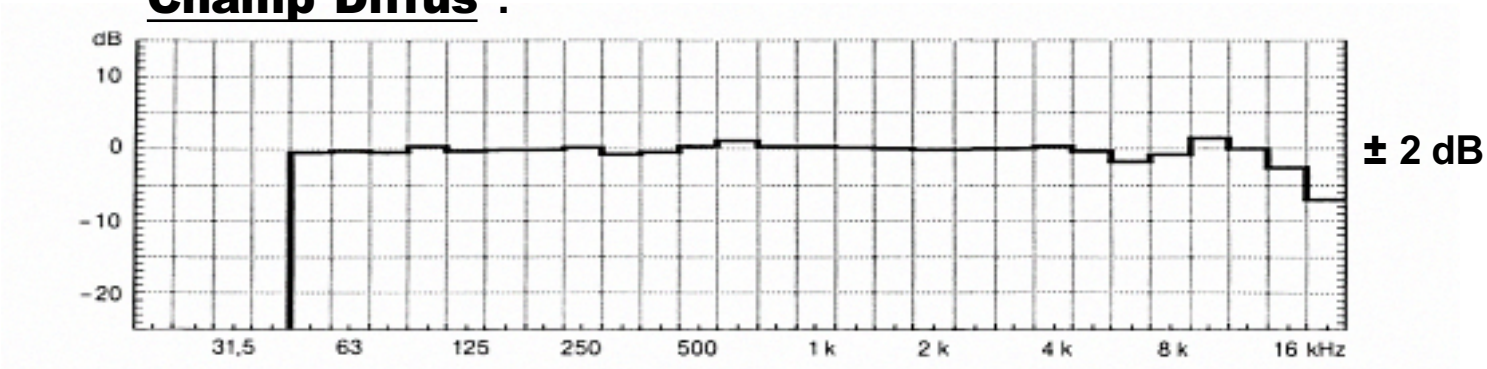
- **Filtre coupe bas à 40 Hz ou 150 Hz et atténuation de 10 dB.**

Photos : www.neumann.com et www.madooma.com

NEUMANN KU 100

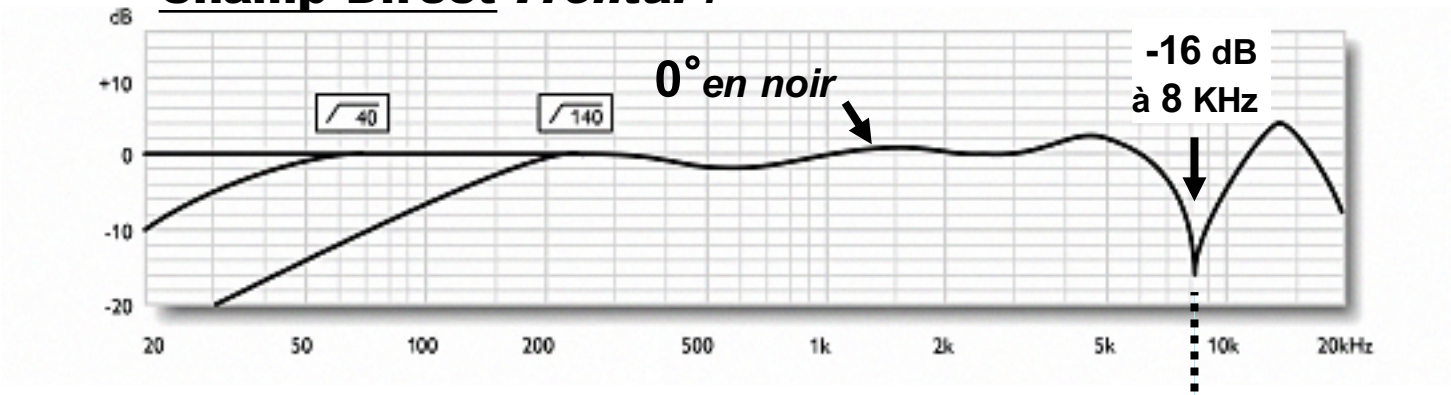
Documents Neumann

Champ Diffus :



± 2 dB

Champ Direct *Frontal* :

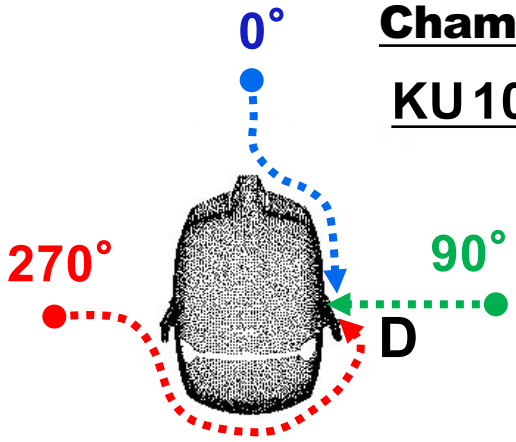


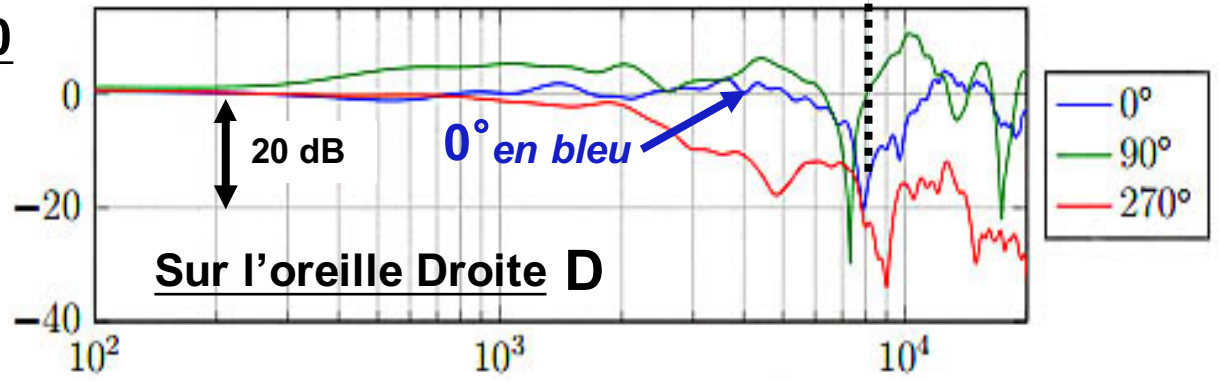
0° *en noir*

-16 dB
à 8 KHz

Champ Direct *Frontal* :

KU 100

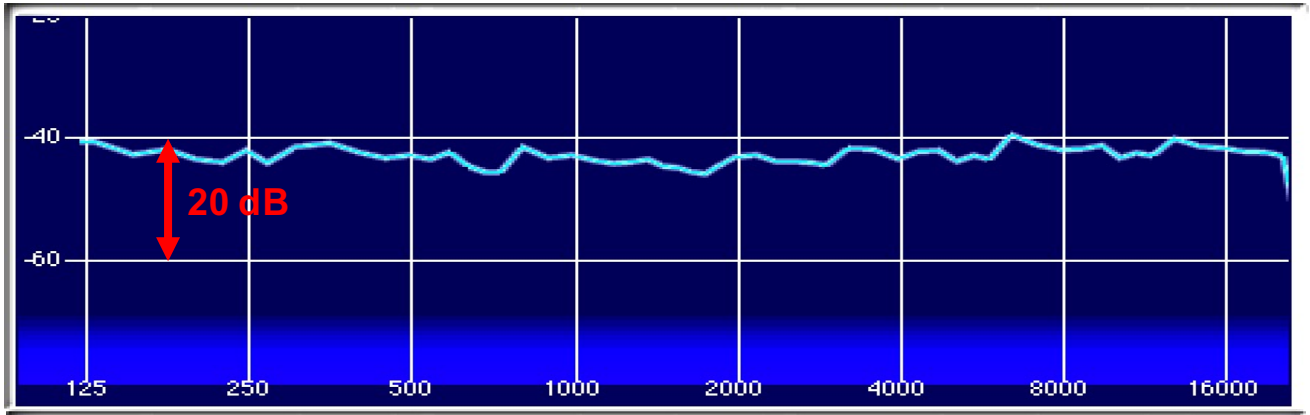




Jakob Vennerød
Trondheim, June 2014

IN

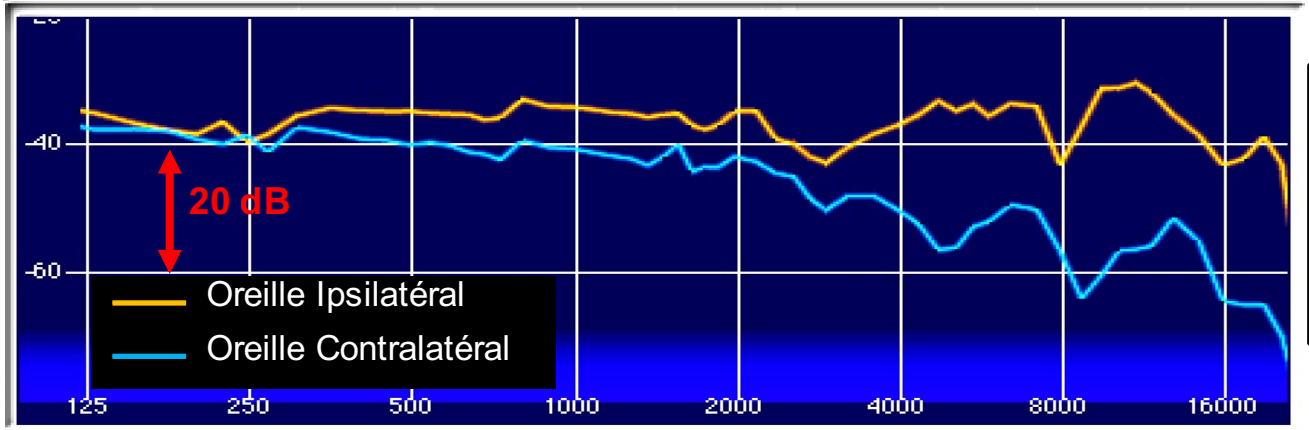
Bruit Rose

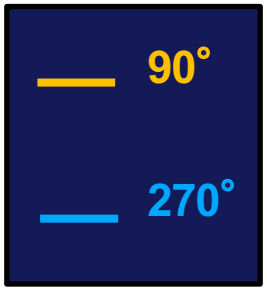


OUT

ORBIT

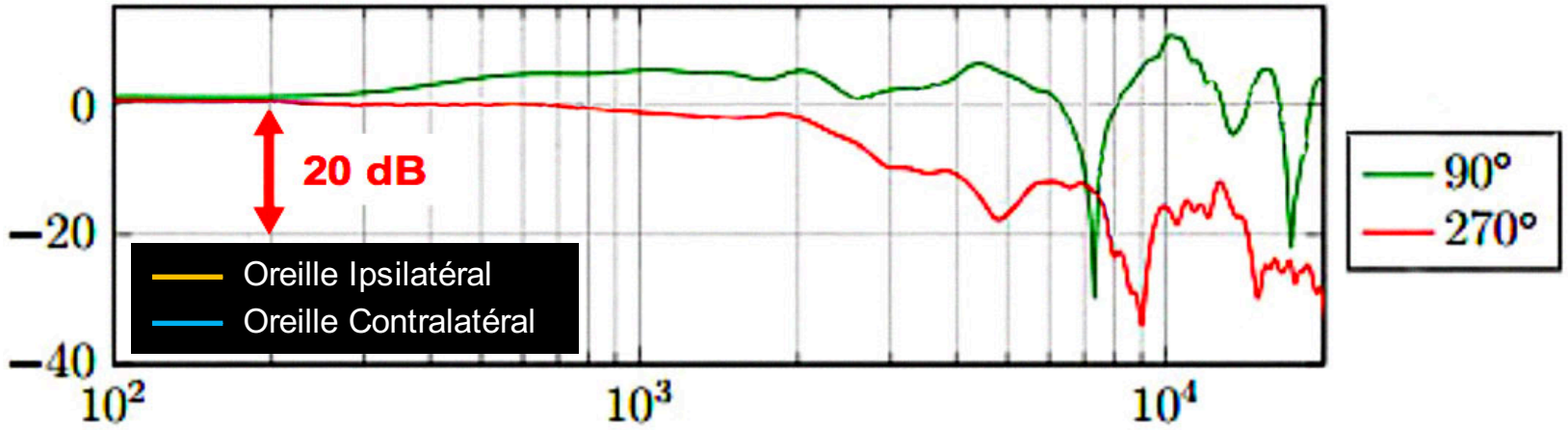
Clarity = 0%



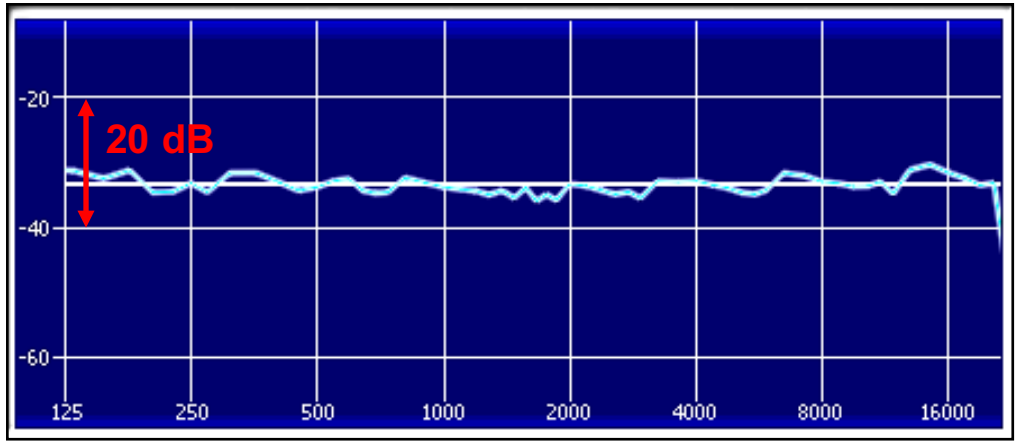


HRTF de la KU 100 Neumann

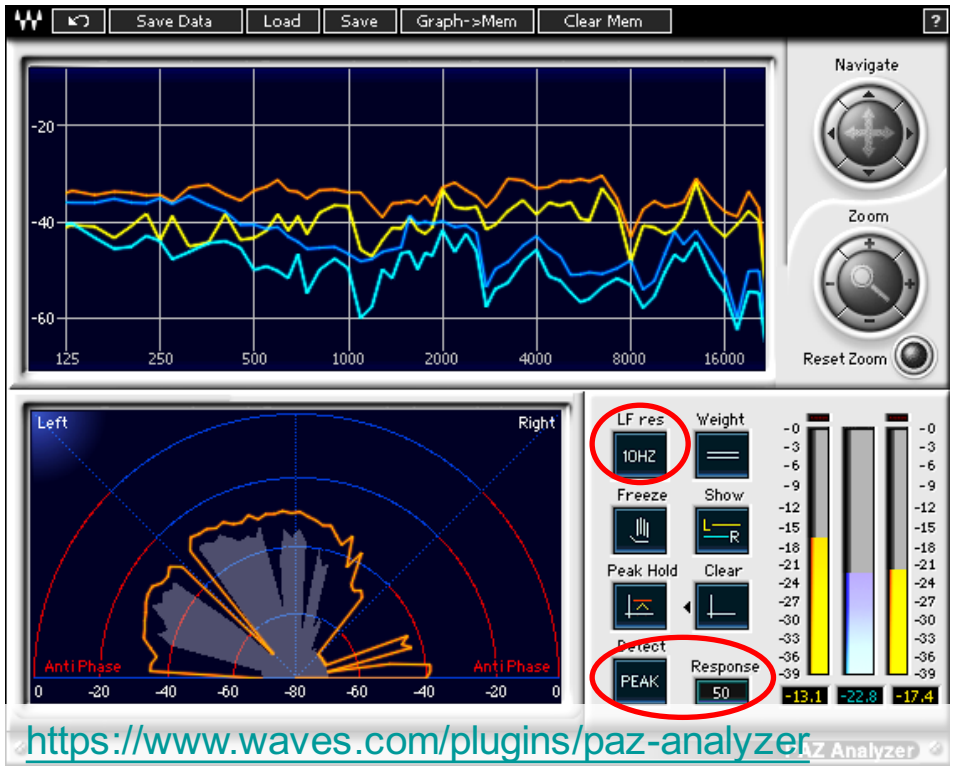
Jakob Vennerød
Trondheim, June 2014



INPUT : *BRUIT ROSE*

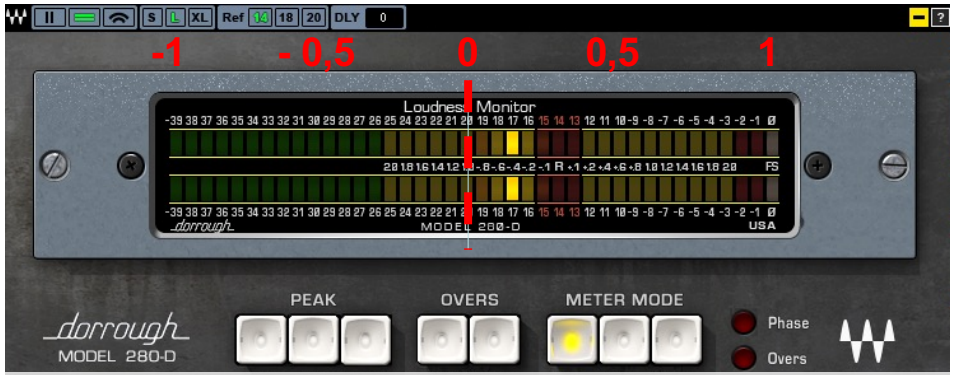


OUTPUT : *PAZ* de WAVES pour l'ILD



https://www.waves.com/plugins/paz-analyzer

OUTPUT : *Dorrough* de WAVES pour la PHASE



https://www.waves.com/plugins/dorrough-stereo

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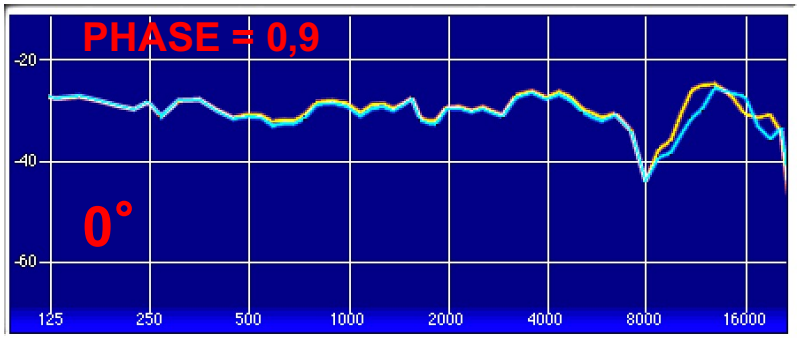
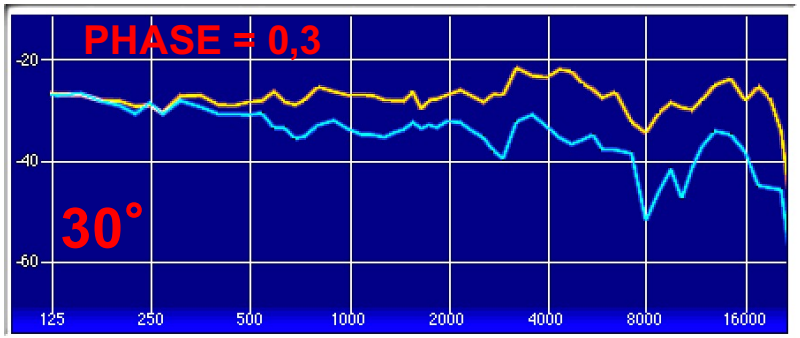
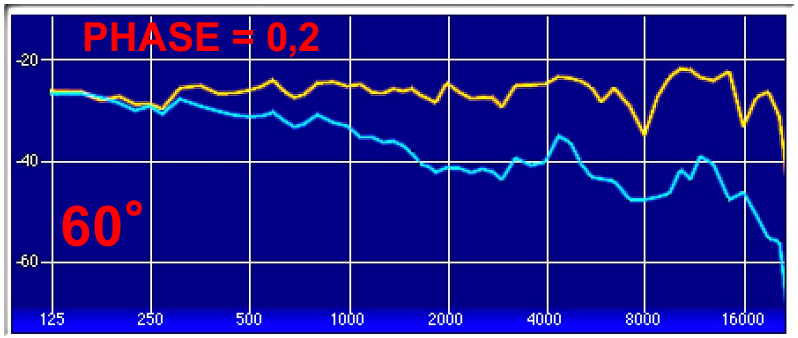
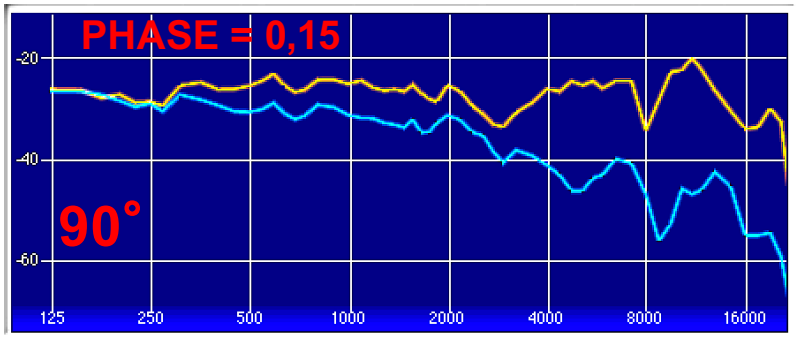
PLUG-IN ORBIT

Oreille Ipsilatéral
Oreille Contralatéral



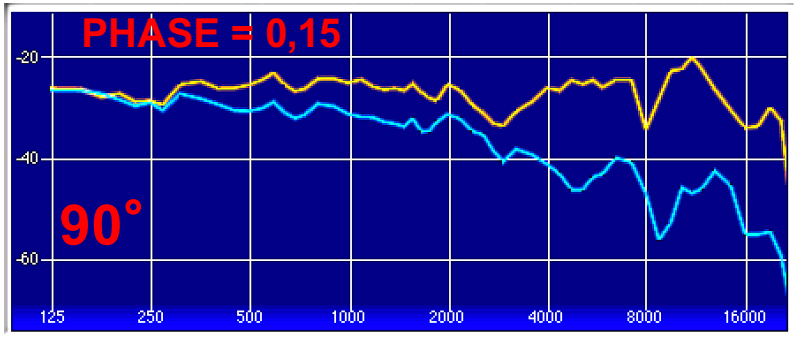


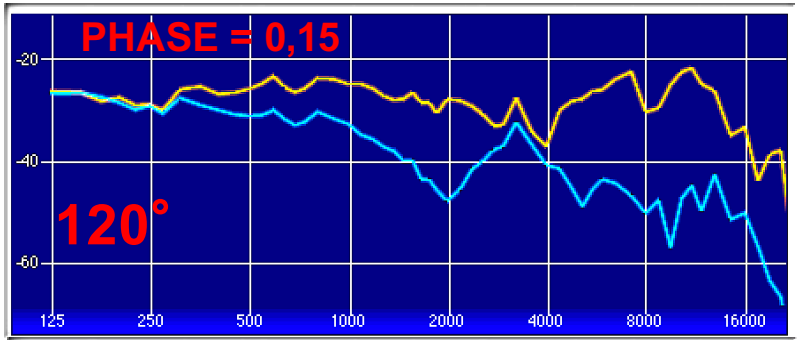


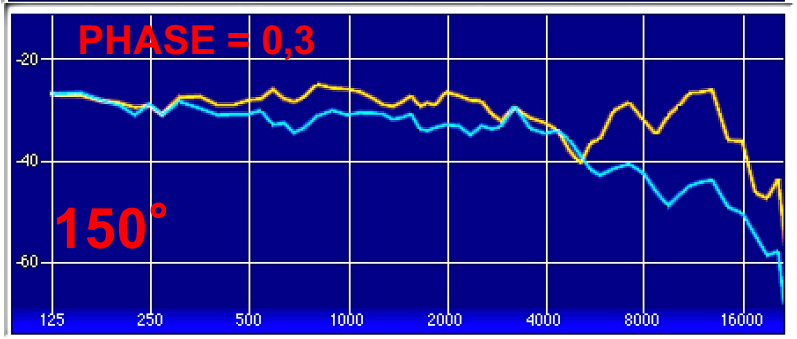


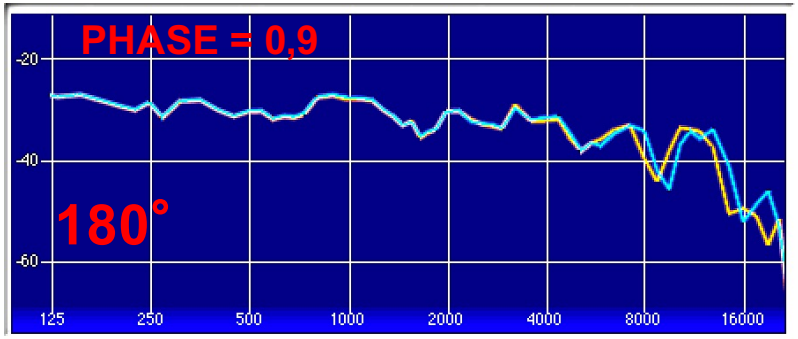
https://fr-fr.sennheiser.com/ambeo-blueprints-downloads

Version
v 0.1.1 BETA



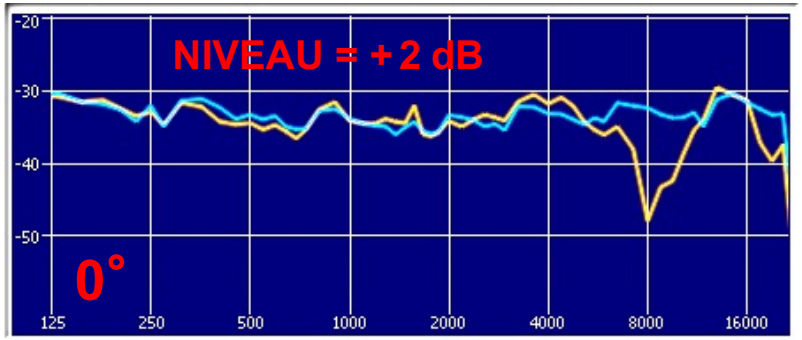


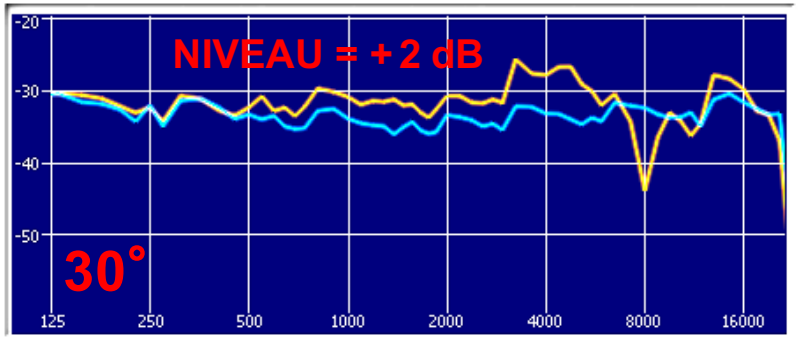


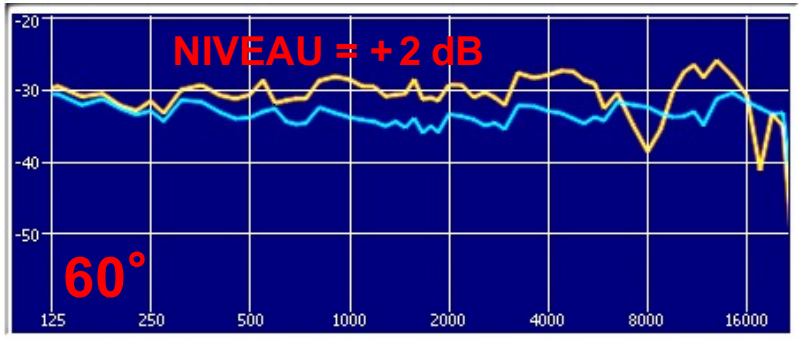


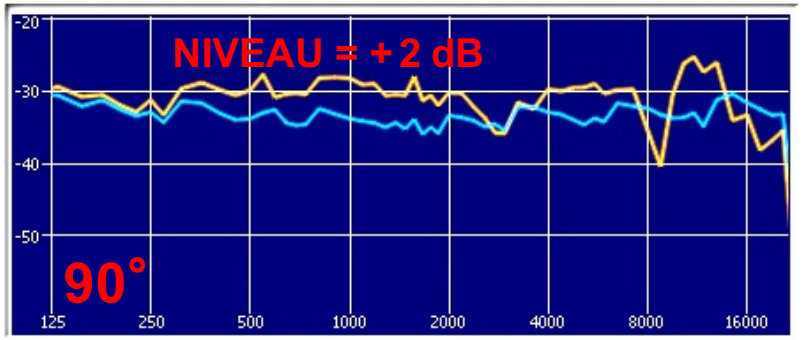
HRTF et Bruit Rose : ORBIT *KU 100*

Oreille Ipsilatéral L
BRUIT ROSE IN

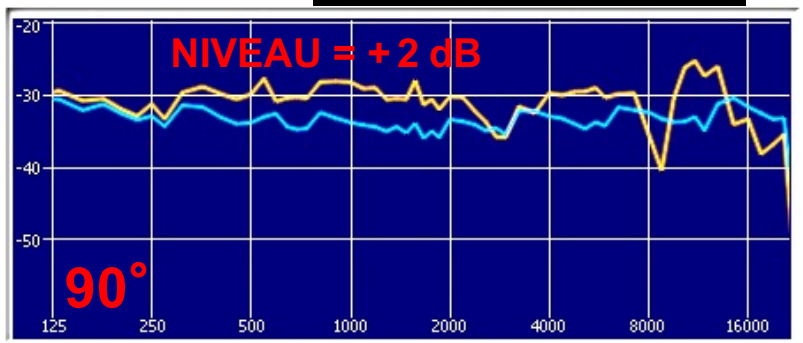


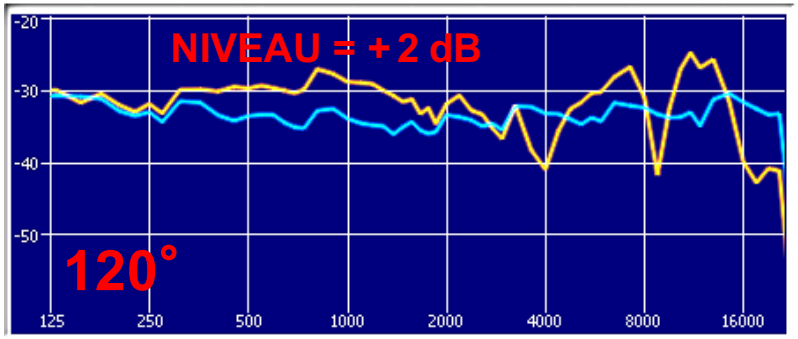


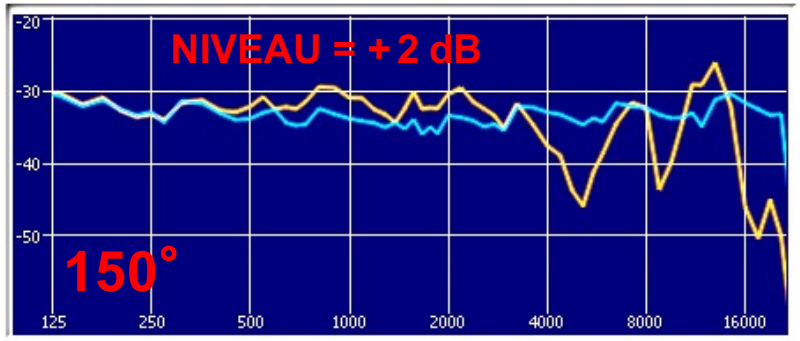


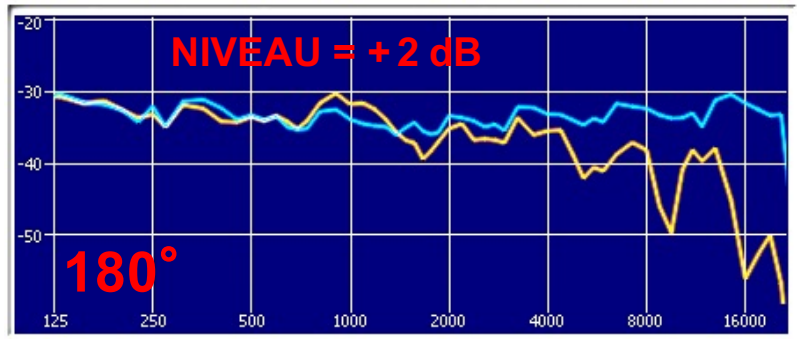


AMBEO









SENNHEISER

dearVR pro

Plugin Alliance

349 $

Configuration pour mesurer les HRTF :

- ***Bass Boost*** = **Baxandall de ≈ + 3,5 dB à 400 Hz (rendu naturel…)**
- ***Azimut scale*** = **1 correspond à l'affichage réel de l'Azimut, variations ≈ ± 30°**
- ***Distance scale*** = **0,01 correspond à une distance ≈ nulle (pas de changement des HRTF en fonction de la distance affichée)**

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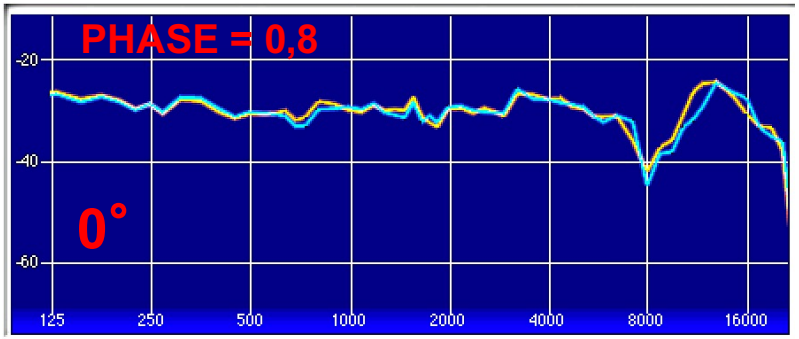
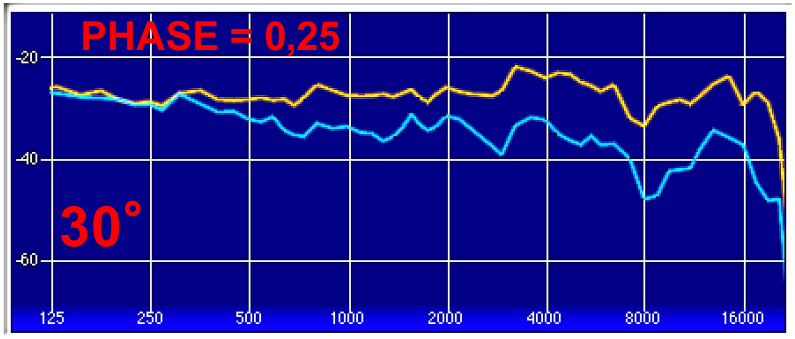
HRTF du dear VR pro

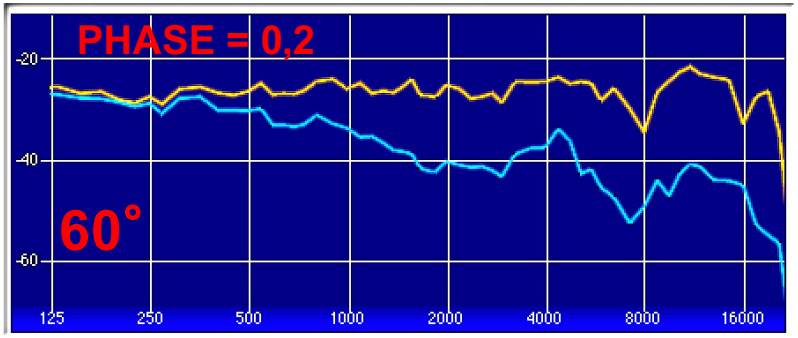
Oreille Ipsilatéral
Oreille Contralatéral

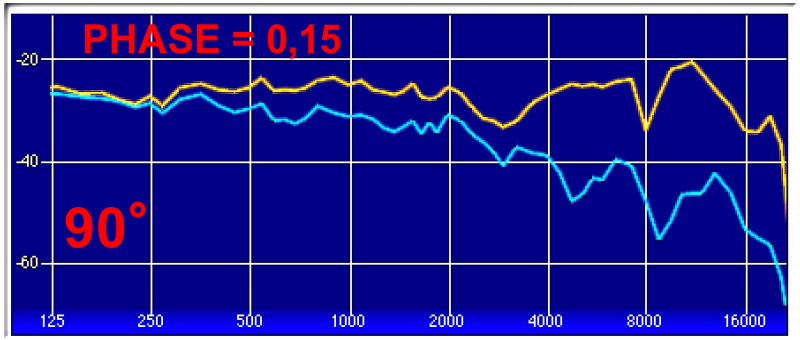
Version v 1.1

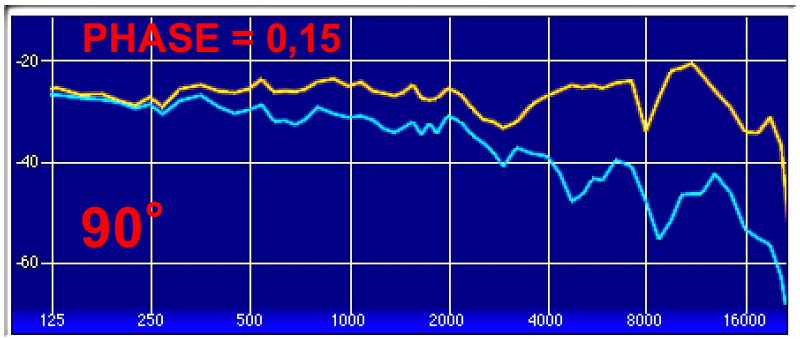
https://www.plugin-alliance.com/en/products/dearvr_pro.html

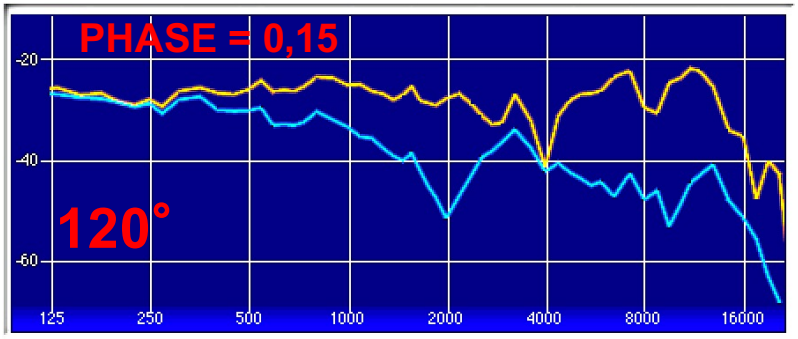


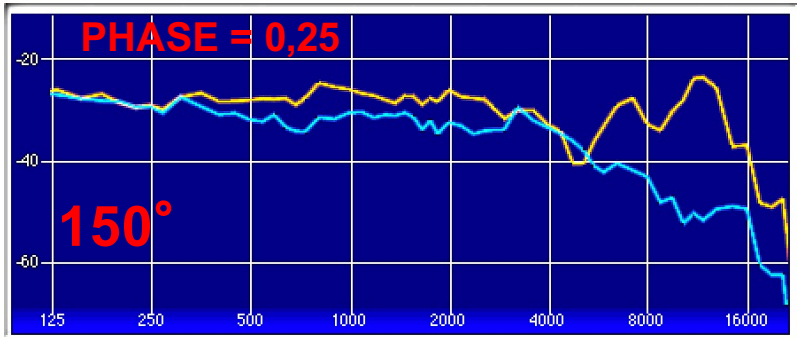


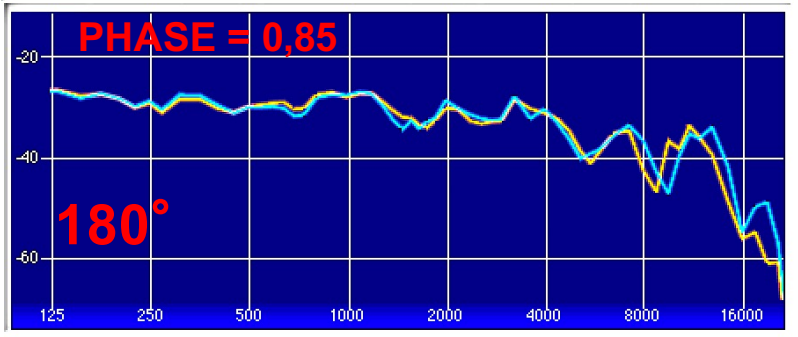






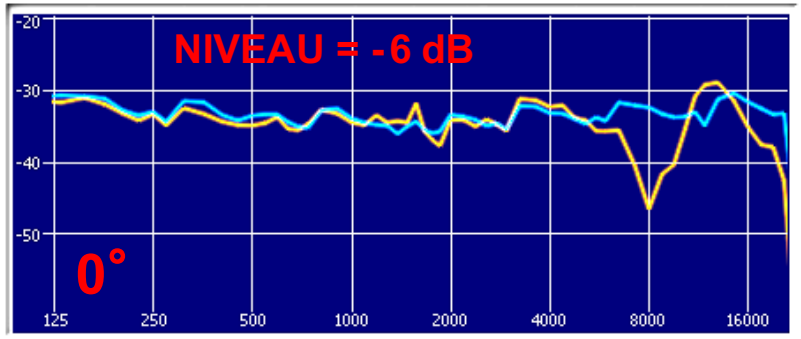


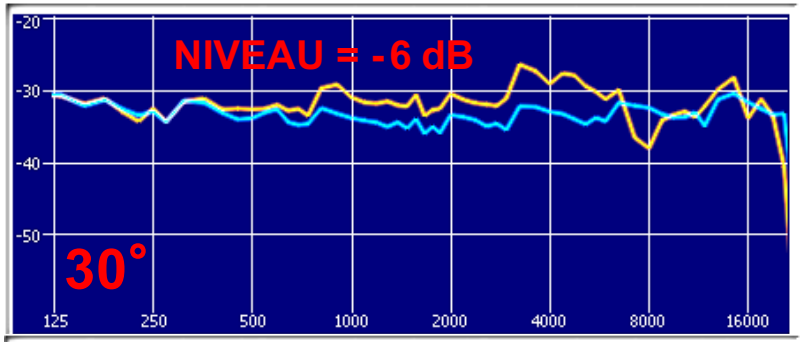


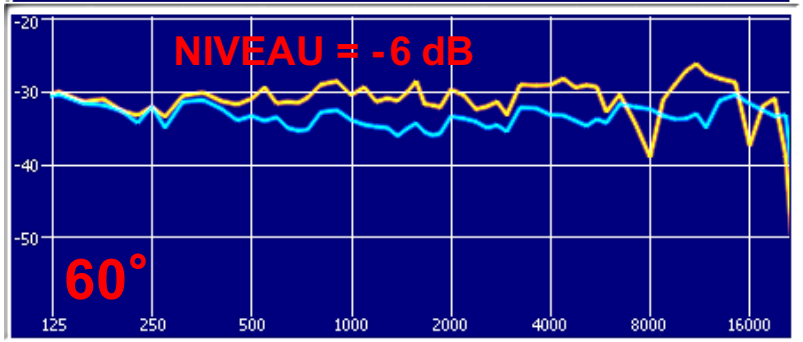


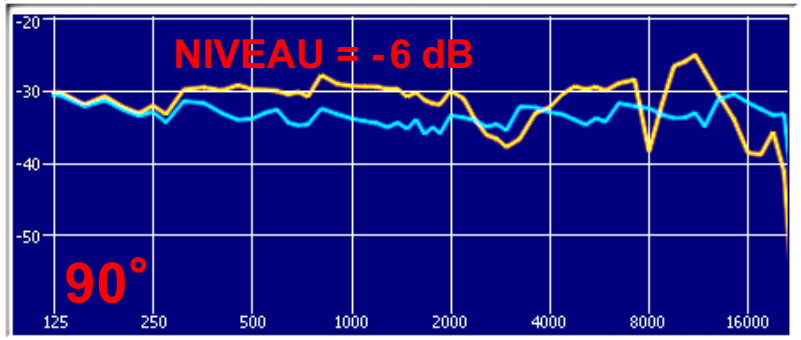
HRTF et Bruit Rose : dearVR pro KU 100

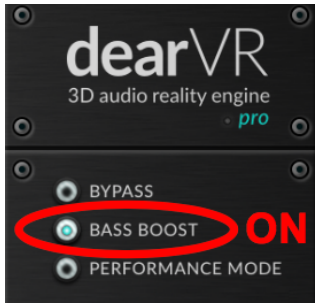
Oreille Ipsilatéral L
BRUIT ROSE IN

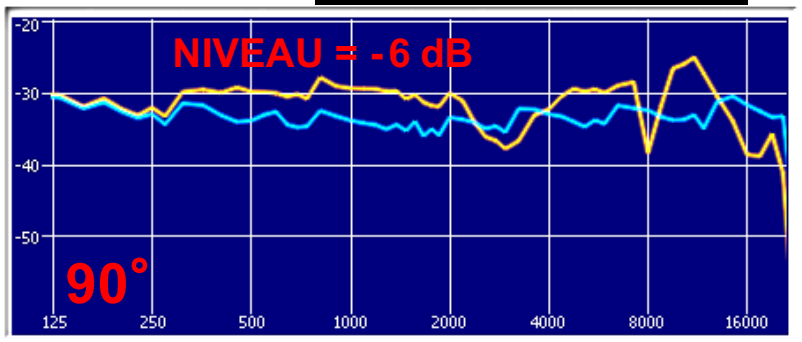


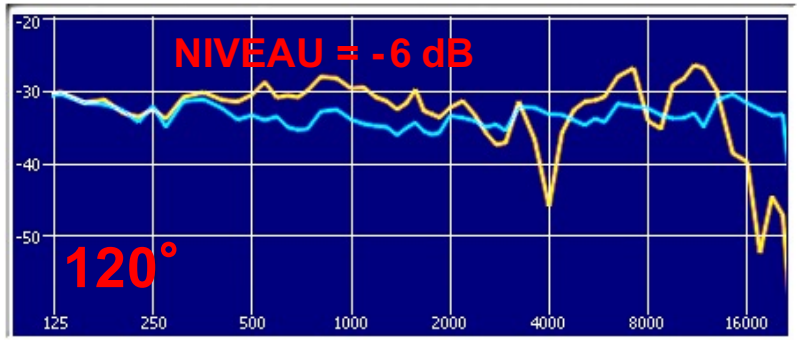


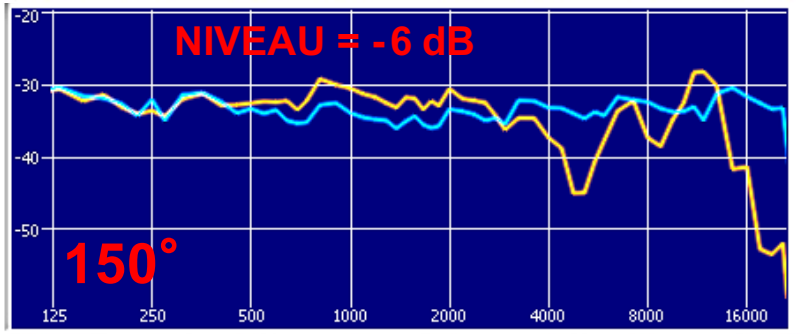


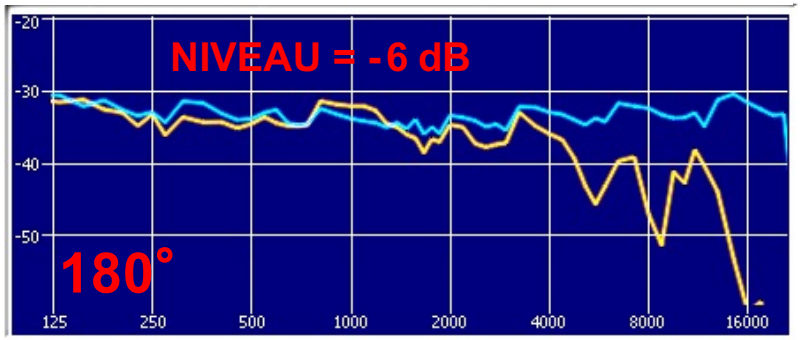




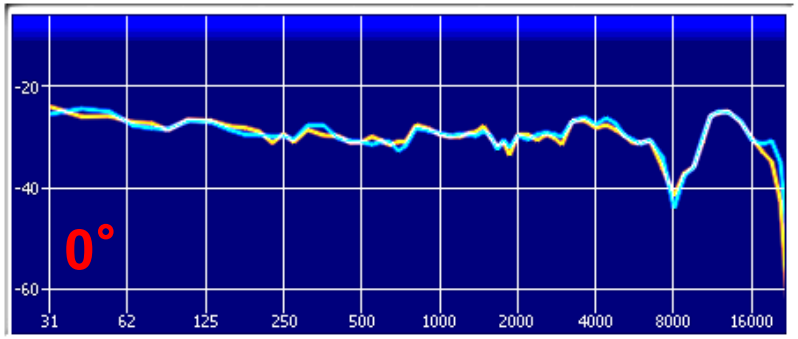


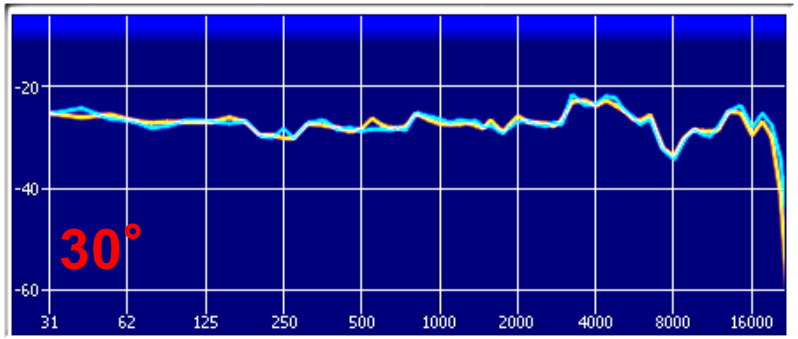


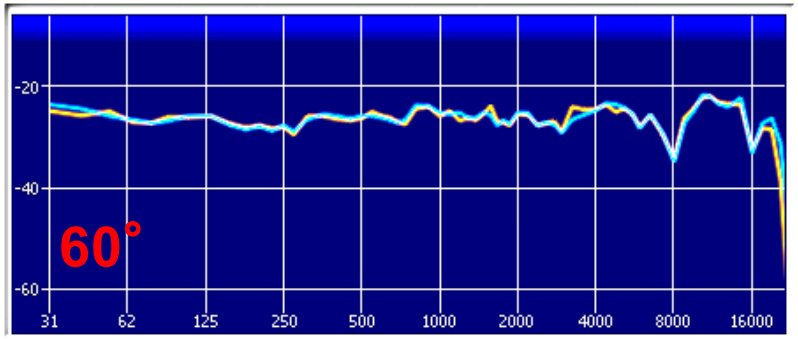


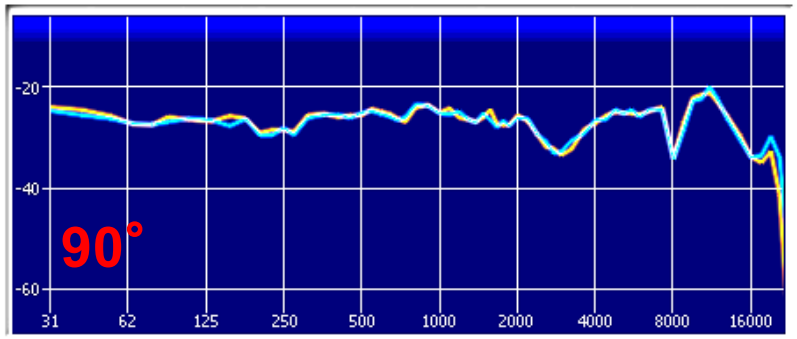


PLUG-IN dearVR *pro* *face à* Orbit *pour l'Oreille* **Ipsilatéral**









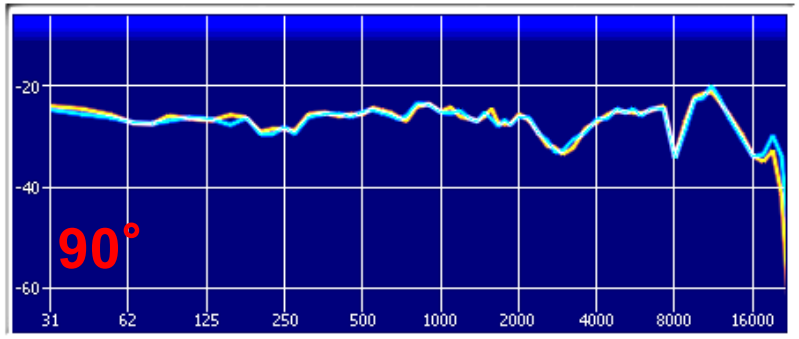
dearVR *pro*

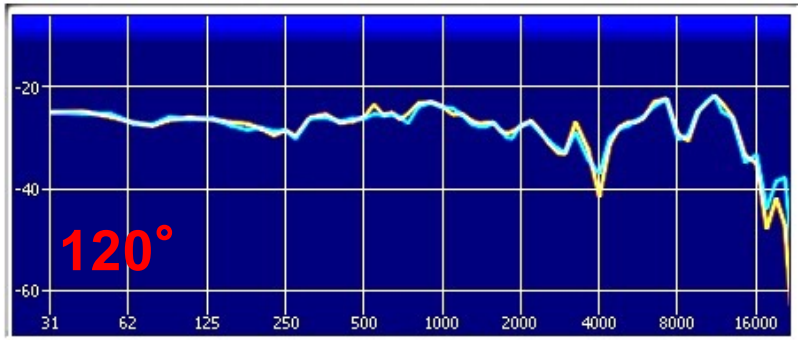
en orange

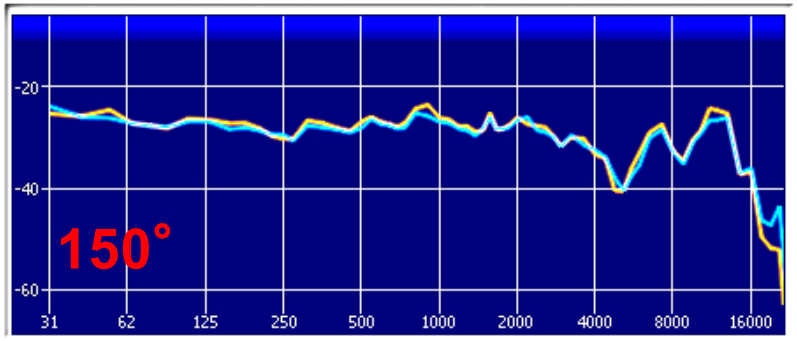
Gain = -1.5 dB
Dist Scale = 0,01
Azi Scale = 1
Bass Boost : on

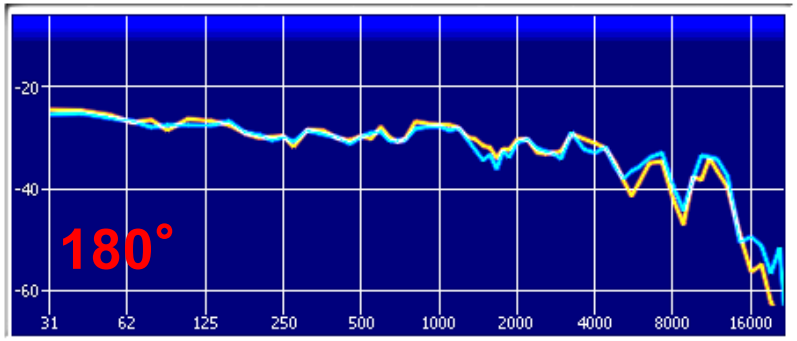
Orbit

en bleu

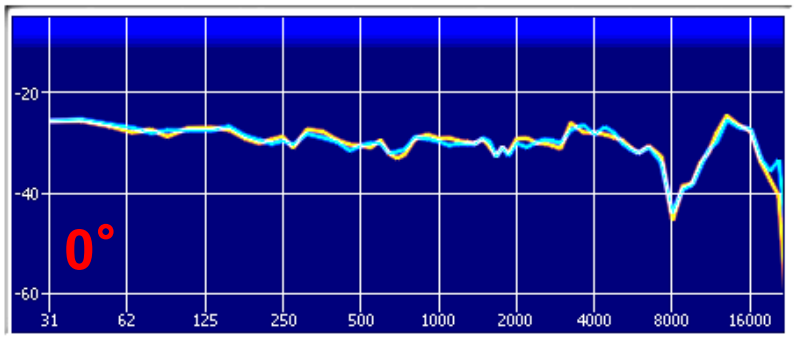


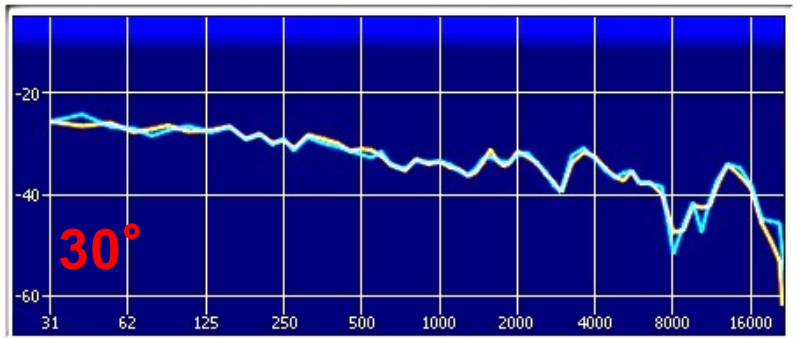


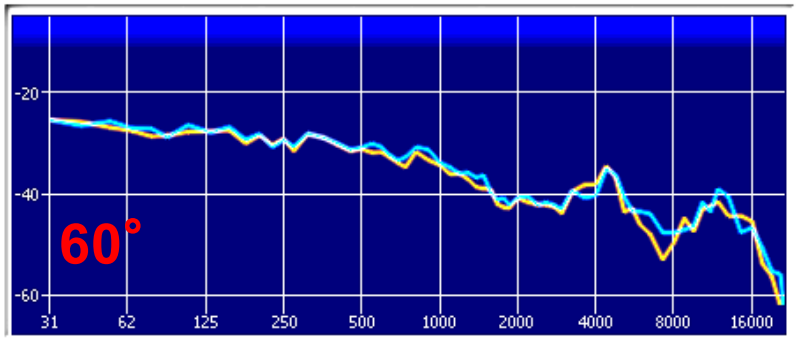


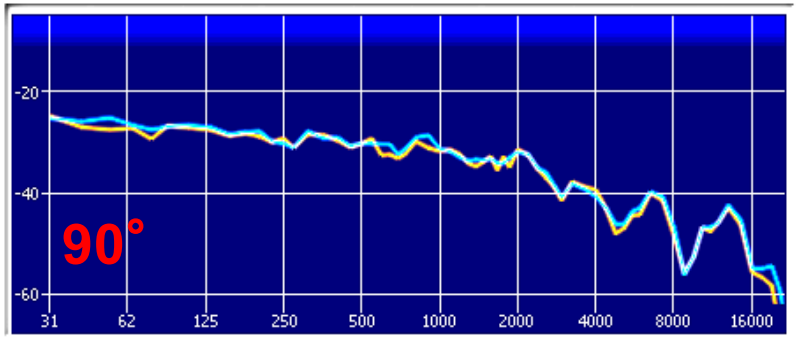


PLUG-IN dearVR *pro* face à Orbit pour l'Oreille Contralatéral









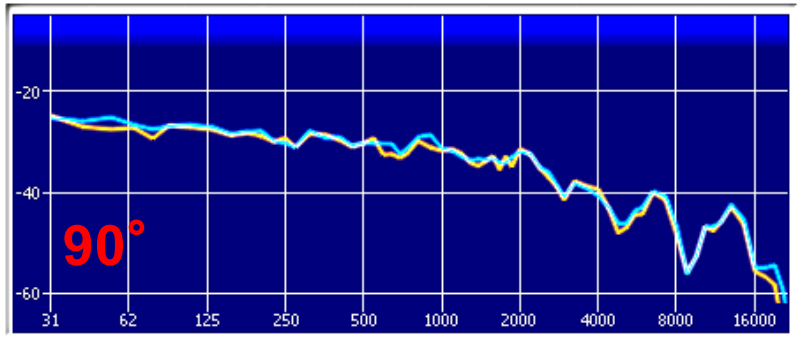
dearVR *pro*

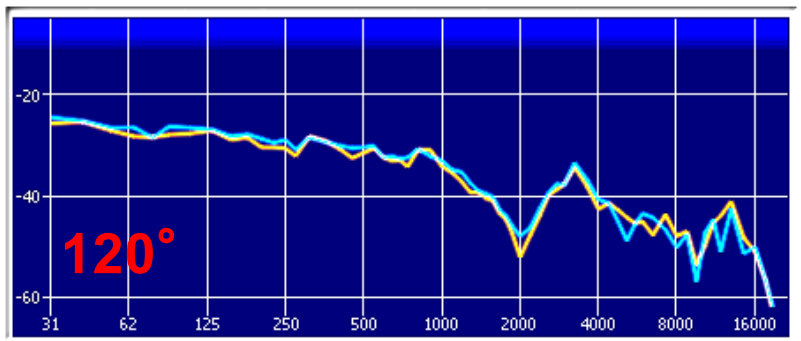
en orange

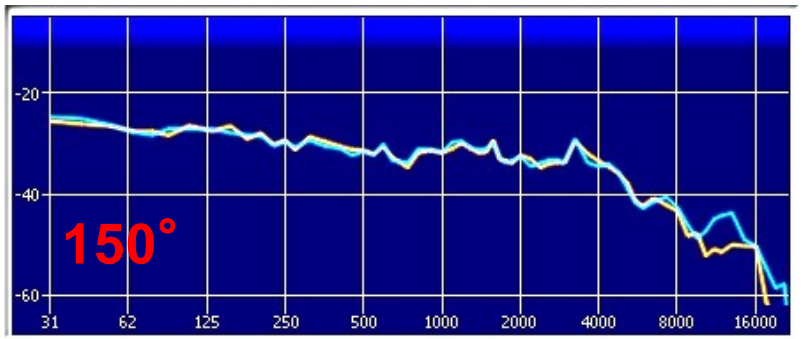
Gain = -1.5 dB
Dist Scale = 0,01
Azi Scale = 1
Bass Boost : on

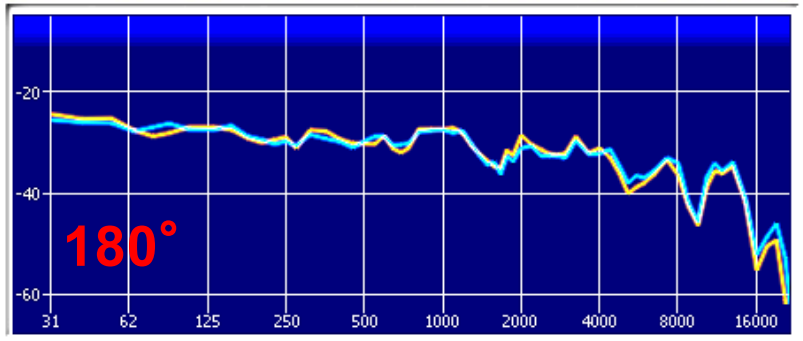
Orbit

en bleu









Annexes :

Étude comparée des HRTF de la tête binaurale ***Neumann KU100*** :
(dans le plan azimutal)

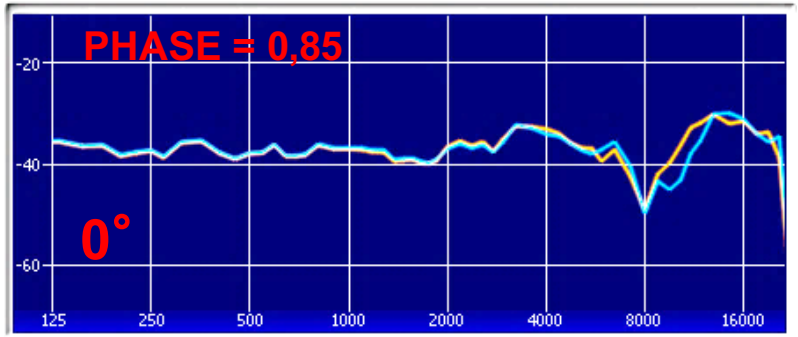
- University of YORK :
  SADIE_KU100_DFC_256_order_fir_48000.sofa

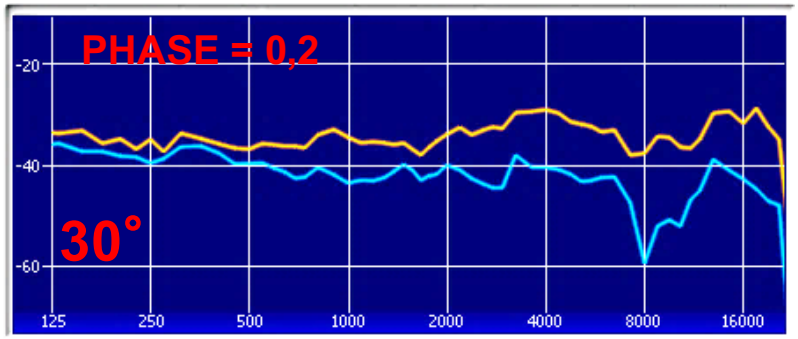
- TH Köln
  University of Applied Sciences
  Institute of Communication Systems :
  HRIR_FULL2DEG.sofa

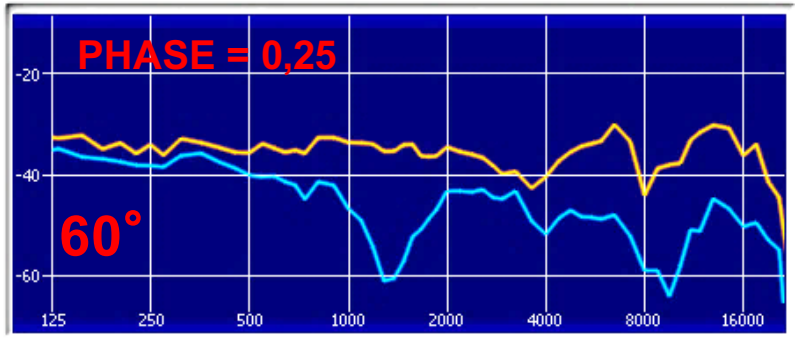
- Sennheiser AMBEO ORBIT :
  Clarity = 0% Width = 0% (Pas de Reflections)
  https://fr-fr.sennheiser.com/ambeo-blueprints-downloads

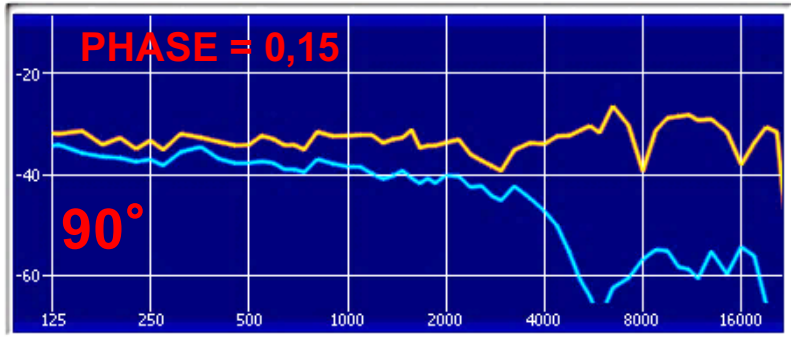
PLUG-IN KU 100 SADIE

Oreille Ipsilatéral
Oreille Contralatéral







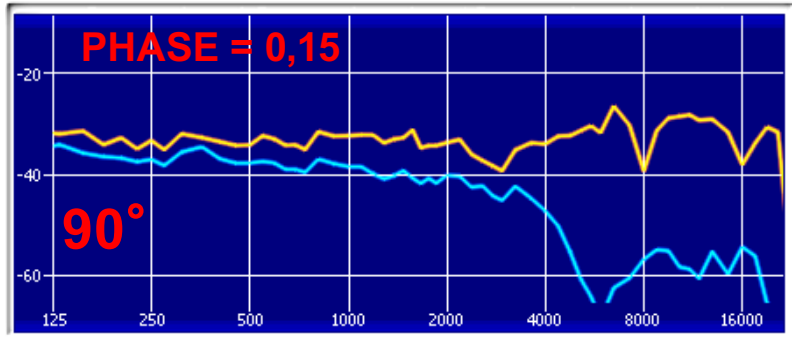


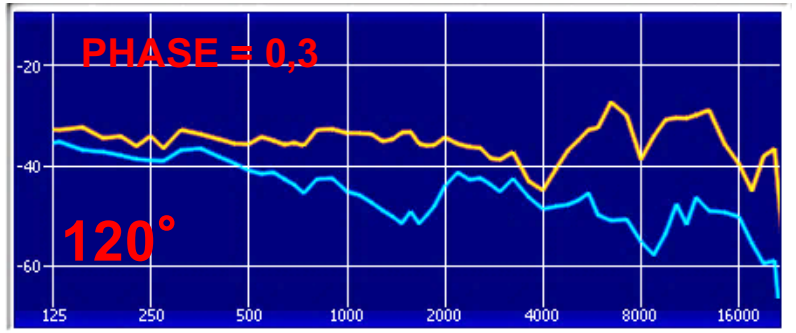
Adopté par :
Youtube 360
et Google VR

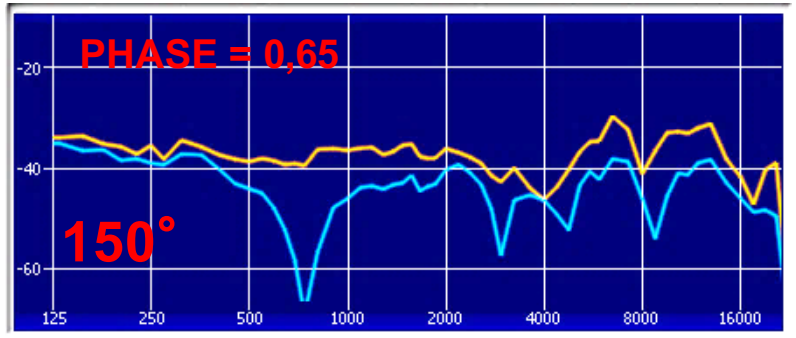
SADIE_KU100_DFC_256_order_fir_48000.sofa

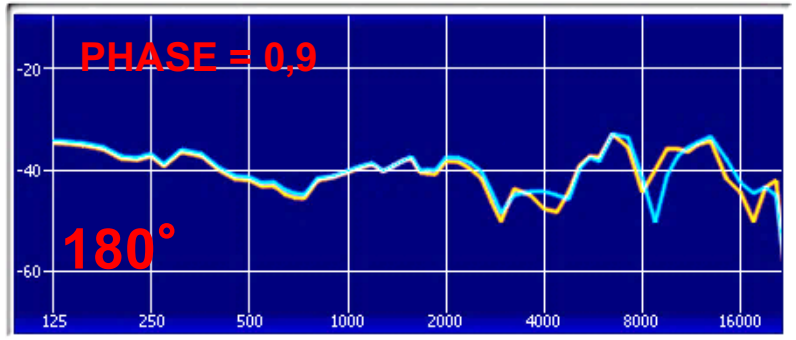
https://www.york.ac.uk/sadie-project/binaural.html

University of York



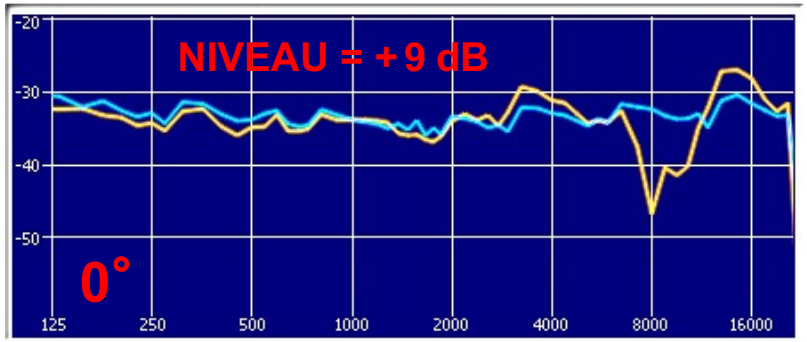


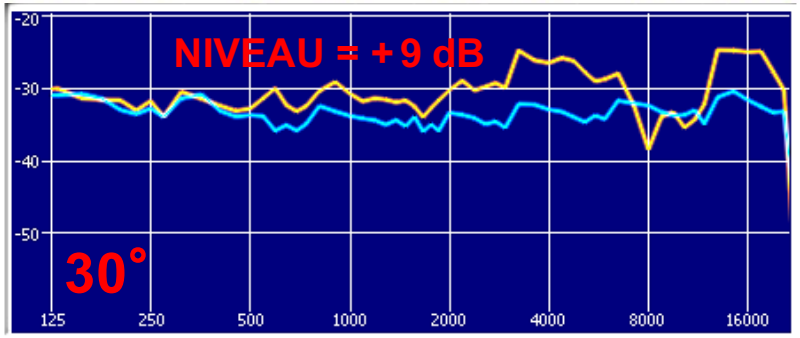


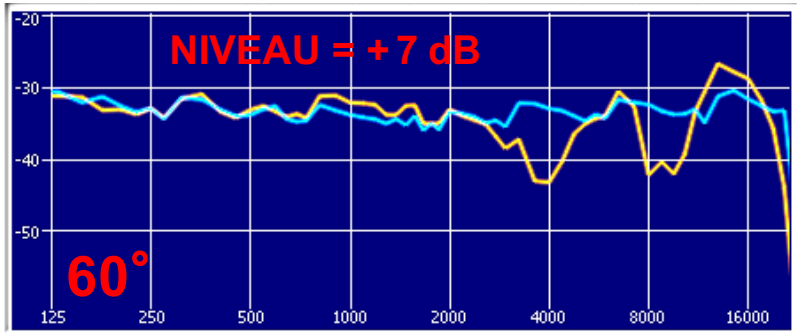


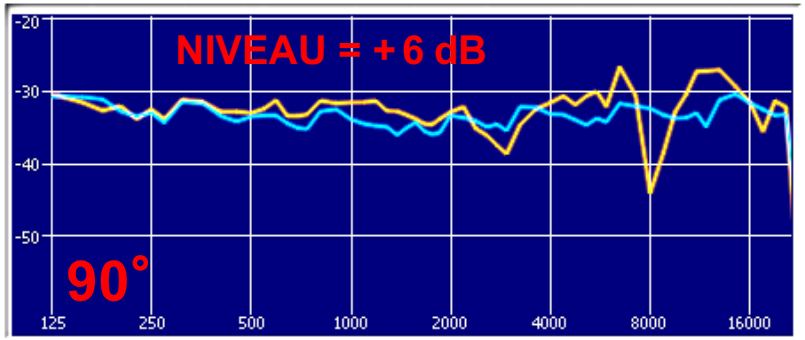
HRTF et Bruit Rose : SADIE *KU 100*

Oreille Ipsilatéral L
BRUIT ROSE IN



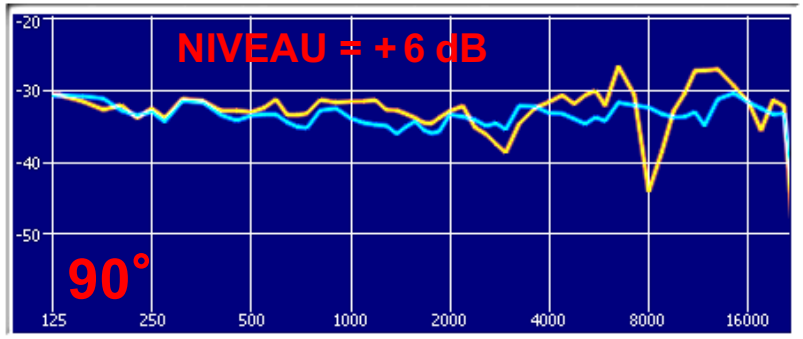


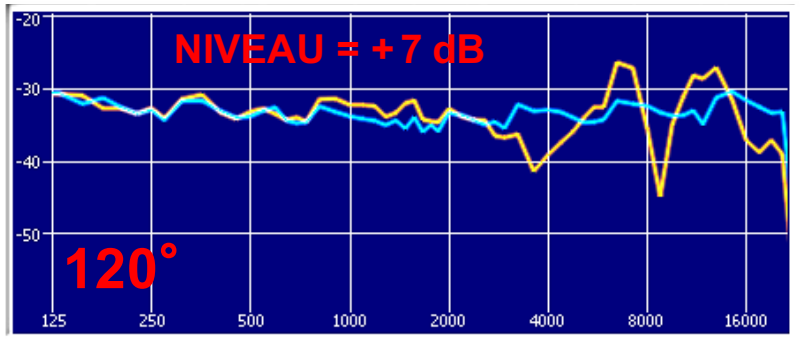


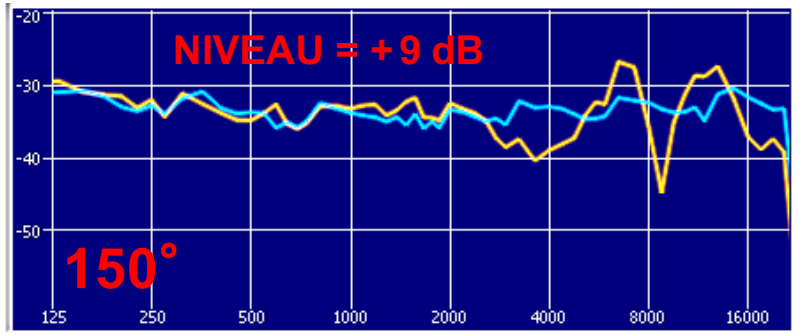


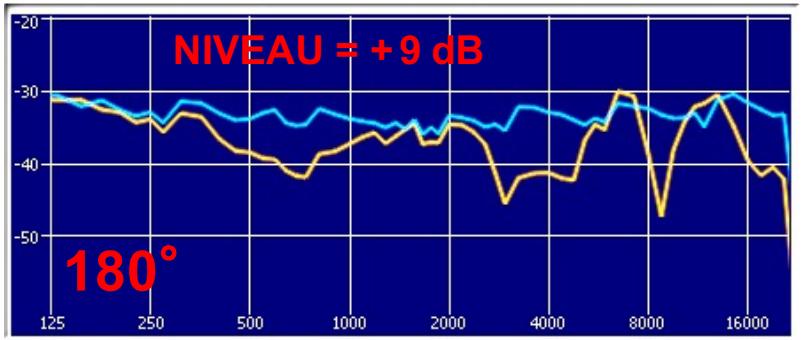
University of York

SADIE_KU100_DFC_256_order_fir_48000.sofa



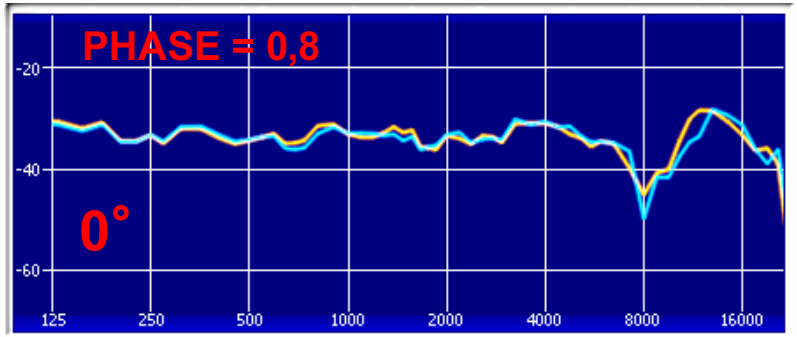


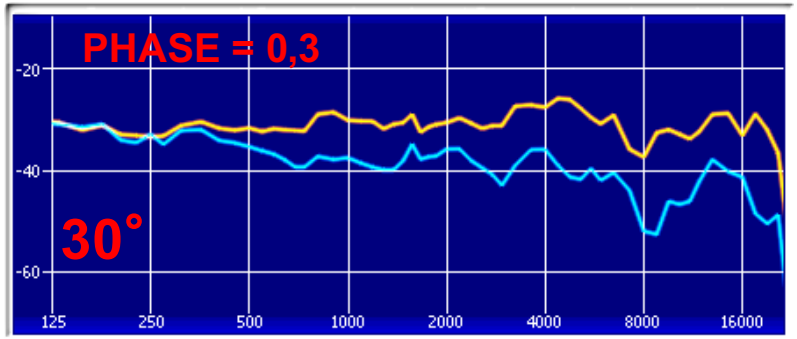


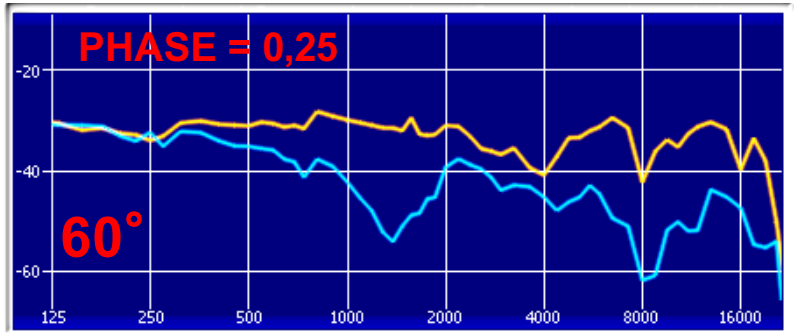


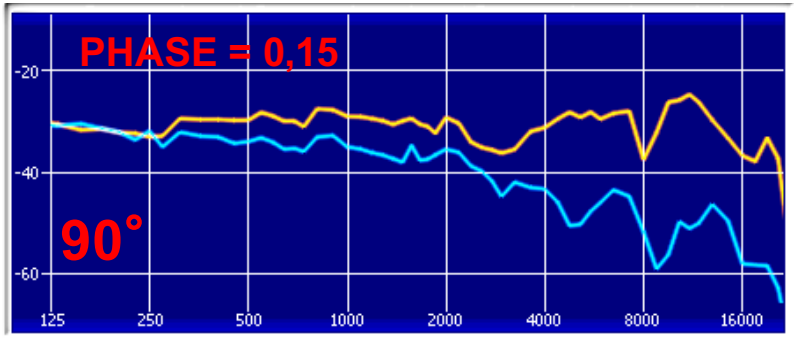
PLUG-IN KU 100 TH Köln

Oreille Ipsilatéral
Oreille Contralatéral





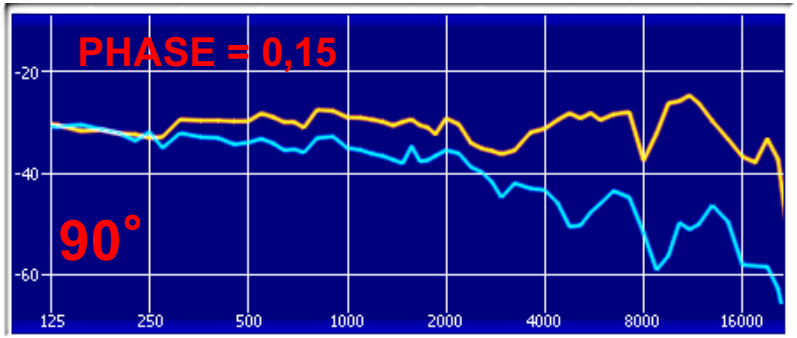


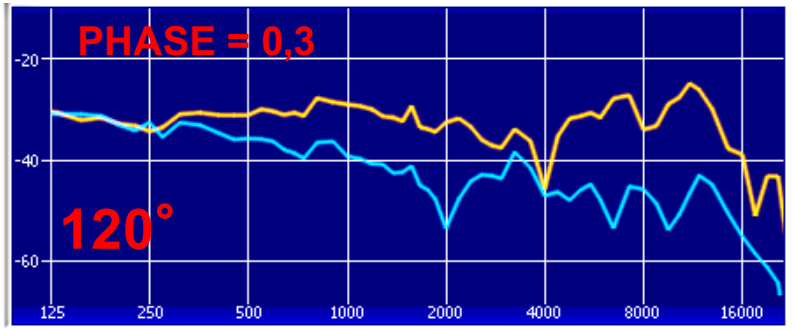


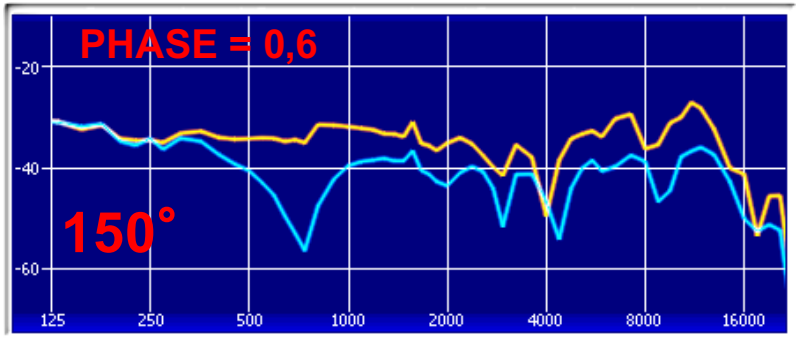
HRIR_FULL2DEG.sofa

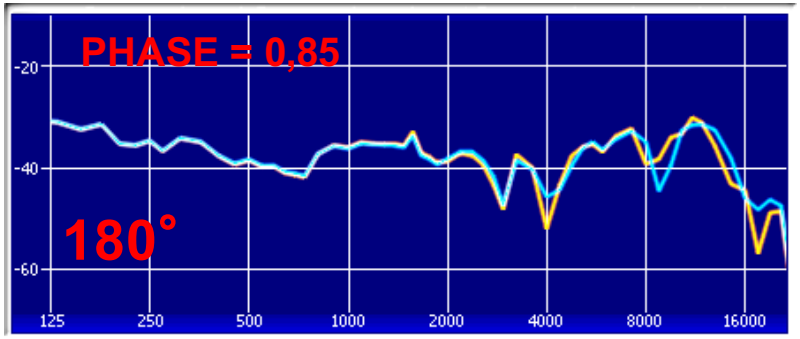
http://sofacoustics.org/data/database/fhk/

http://audiogroup.web.th-koeln.de/ku100nfhrir.html



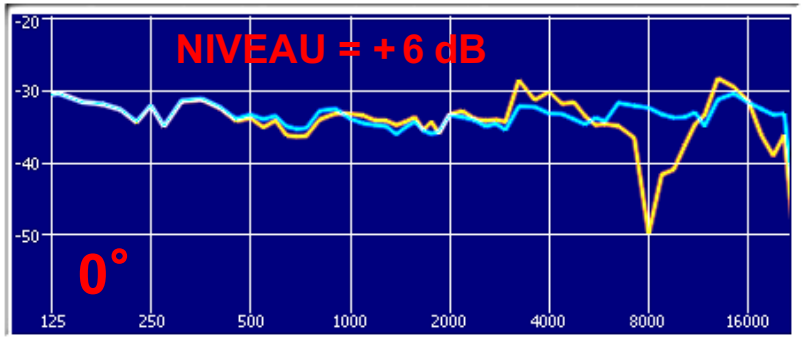


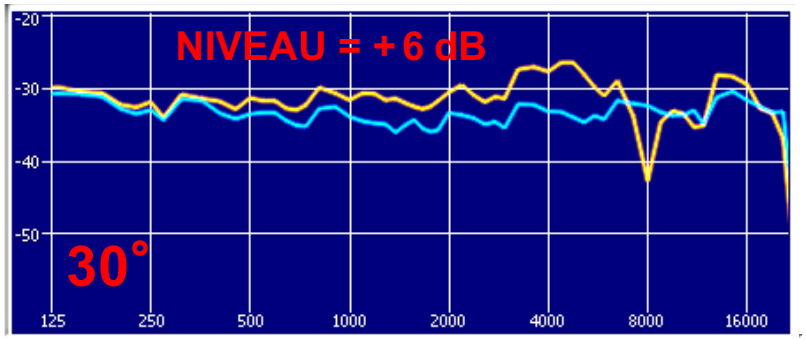


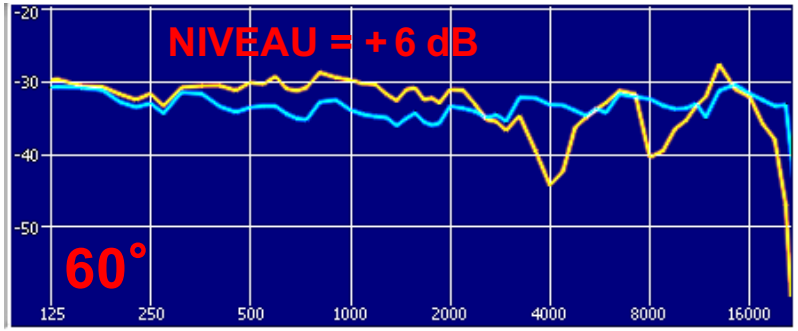


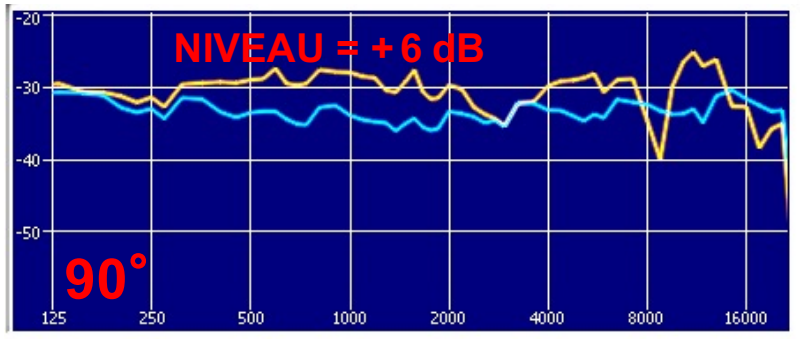
HRTF et Bruit Rose : KOLN *KU 100*

Oreille Ipsilatéral L
BRUIT ROSE IN









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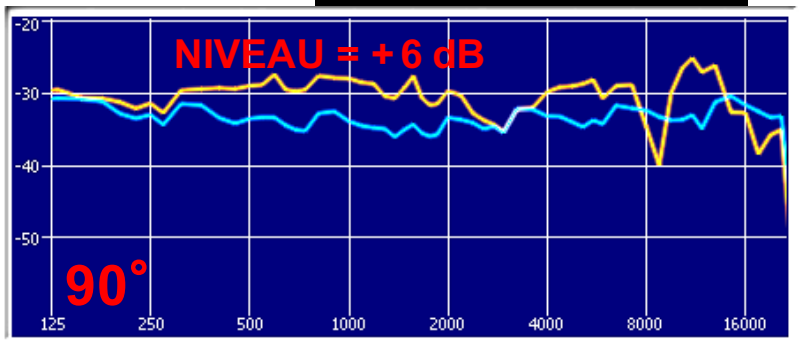
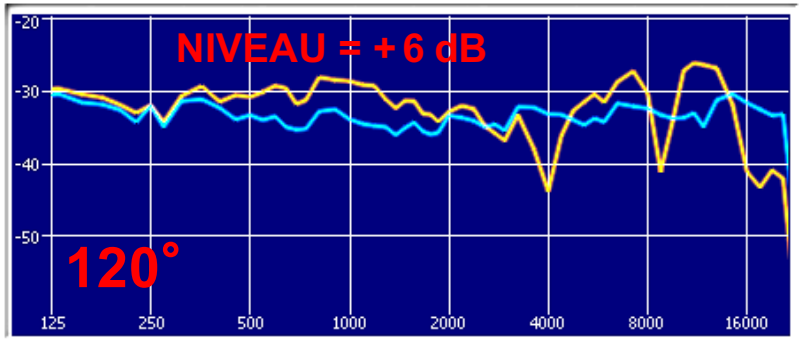
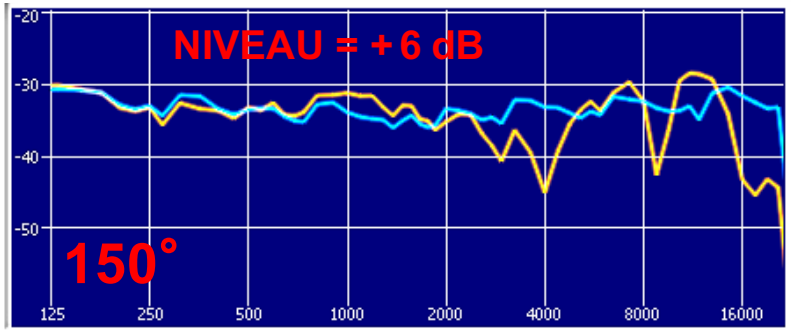
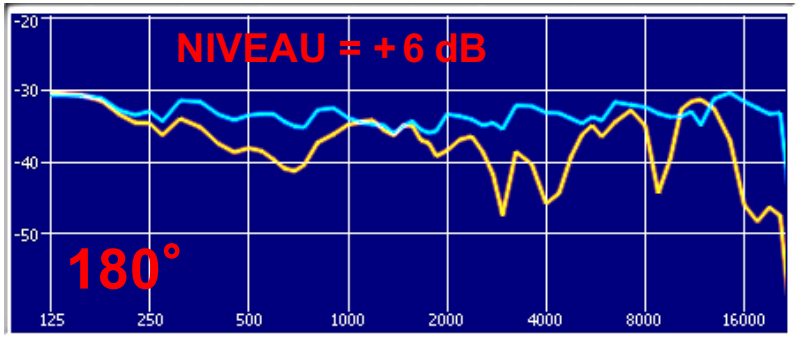




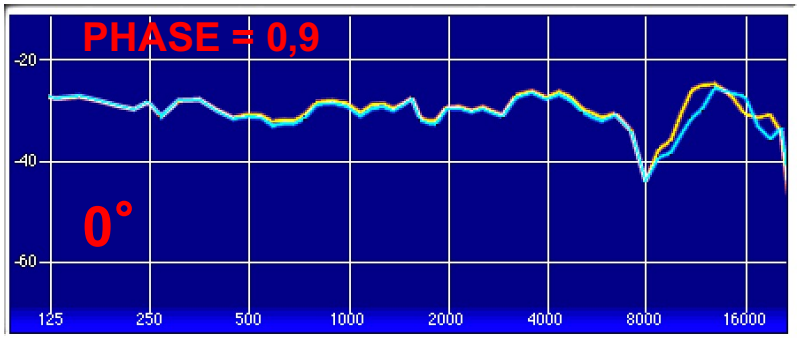


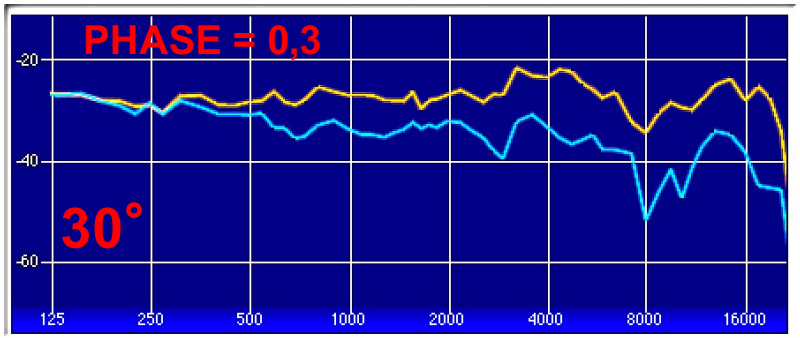


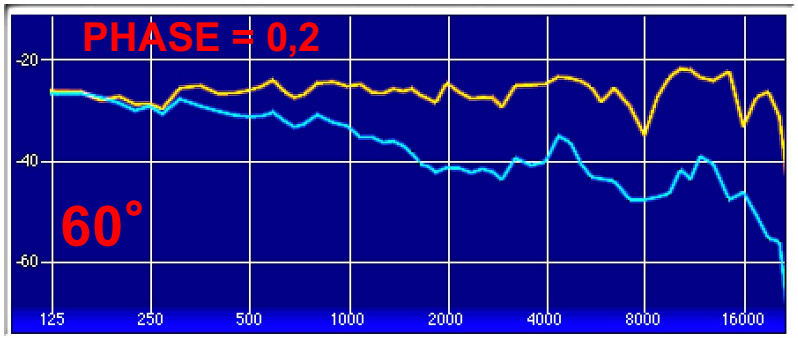
SENNHEISER

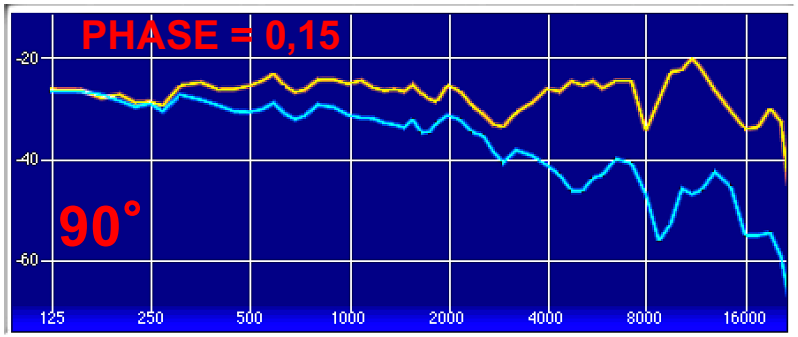
PLUG-IN KU 100 ORBIT

Oreille Ipsilatéral
Oreille Contralatéral



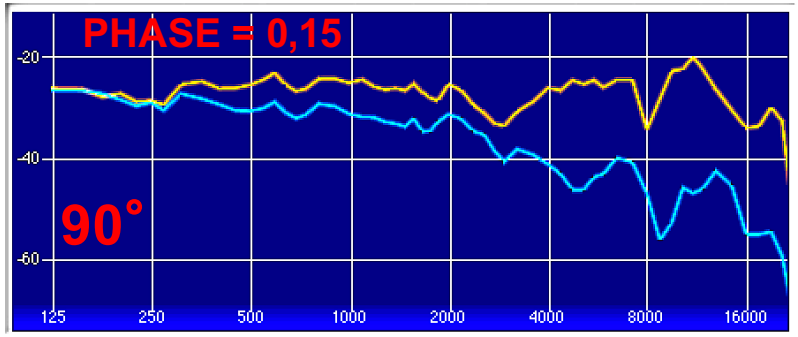


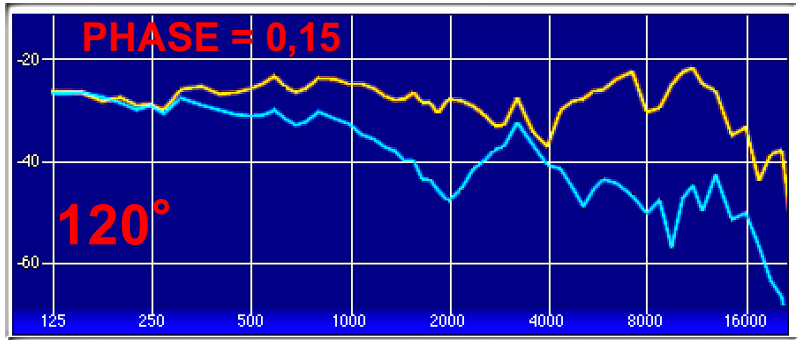


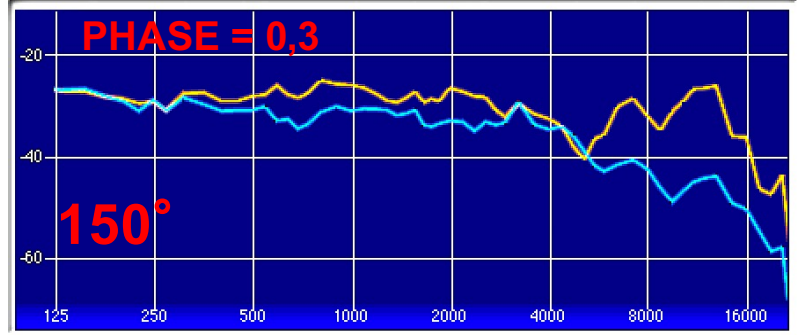


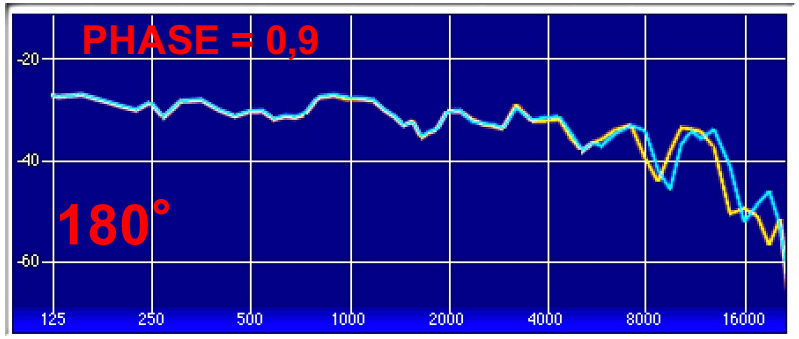
https://fr-fr.sennheiser.com/ambeo-blueprints-downloads

Version
v 0.1.1 BETA



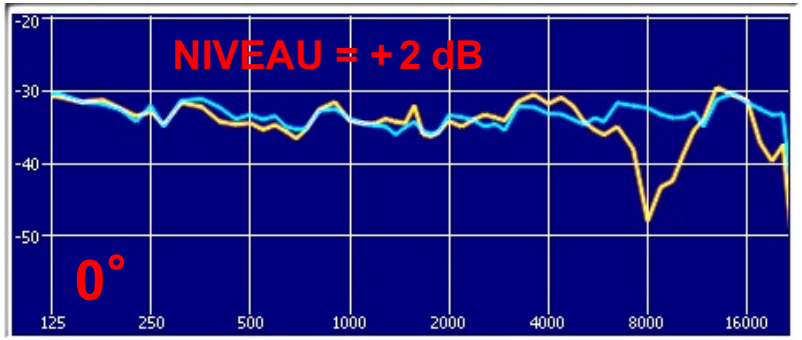


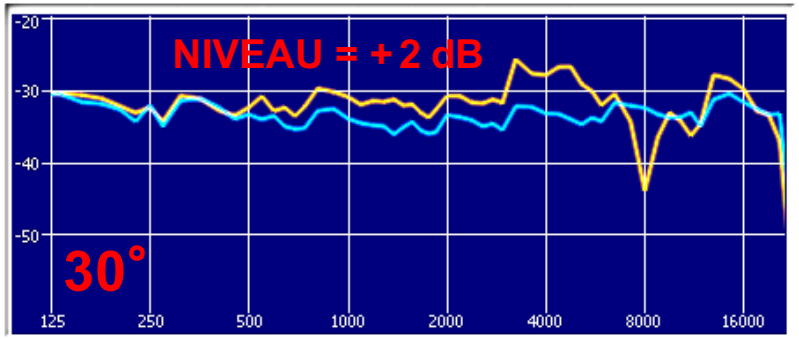


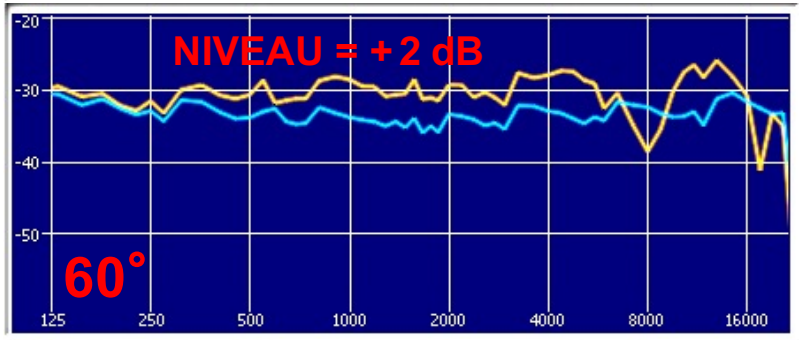


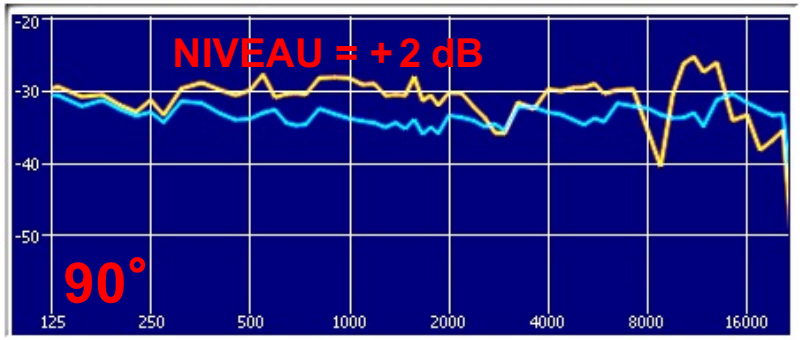
HRTF et Bruit Rose : ORBIT *KU 100*

Oreille Ipsilatéral L
BRUIT ROSE IN









AMBEO