Subject: 3Pi Acoustic Axis and Listening Distance
Posted by Symphonimind on Sat, 14 Dec 2019 04:05:48 GMT
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Dear Mr. Wayne,
I have a small room which is around 3m Width x 3.4m Length. I want to ask 2 questions:

1. Where is the acoustic axis of 3Pi? Is that in the middle of two drivers?
I am really familiar with Genelec monitor, they always draw clearly where acoustic axis is so I can easily aim their monitors.
For example:
https://assets.ctfassets.net/4zjnzn055a4v/2jXvV7G8iwQOekEss8ycKU/14f746cc5074382a1826481b6da45b35/8330a_views_0.pdf

2. Which is the minimum acceptable listening distance from 3Pi to listeners in my situation (small room)? In my situation, I will not sit at the far behind the frontwall like normal audiophile, I sit close to the monitors, and close to the frontwall.

The room is professionally treated to be neutral down to at least 30Hz.

Thank you very much.

Subject: Re: 3Pi Acoustic Axis and Listening Distance
Posted by Wayne Parham on Sat, 14 Dec 2019 15:42:20 GMT
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The center of the forward lobe is between the two drivers. Anywhere within a 25° arc above and below this centerline will give the same good response. See the link below for a video that shows measurements of this:
Measurement of the forward lobe
I recommend that listeners be at least one meter away from the speakers.

Subject: Re: 3Pi Acoustic Axis and Listening Distance
Posted by Symphonimind on Sat, 14 Dec 2019 17:49:54 GMT
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dear Wayne, the "center betwen 2 drivers" - did you mean the middle point betwen two drivers' centers?
Edwards.

Subject: Re: 3Pi Acoustic Axis and Listening Distance
Posted by Wayne Parham on Sat, 14 Dec 2019 17:59:26 GMT

What I would define as the forward lobe centerline is the midpoint between the two vertical nulls. You can see in the video I posted in the message above exactly where those nulls occur. Watch the video for the position of the microphone above and below the speaker where you see a notch around 1.2kHz. The midpoint between them is the centerline of the forward lobe.

Bear in mind that speakers that provide constant directivity don't need the listener to be perfectly on-axis with the forward lobe centerline. As long as the listener is within the 90° x 50° pattern, sound quality is good. That's one of the main benefits of having a speaker like this.

Subject: Re: 3Pi Acoustic Axis and Listening Distance
Posted by Symphonimind on Sat, 14 Dec 2019 18:06:26 GMT

Wayne Parham wrote on Sat, 14 December 2019 11:59What I would define as the forward lobe centerline is the midpoint between the two vertical nulls. You can see in the video I posted in the message above exactly where those nulls occur. Watch the video for the position of the microphone above and below the speaker where you see a notch around 1.2kHz. The midpoint between them is the centerline of the forward lobe.

Thank you very much for your help. I will grab the last pair of 12PLB100 on the earth at Part Express to experiment with new high end 3Pis.

When I bought premade XO from your website, how much power the default XO can handle without smoking itself? If I want to use all what 12PLB100 can do, what upgrade I should do for XO to use safely at 600W RMS?

Edward.

Subject: Re: 3Pi Acoustic Axis and Listening Distance
Posted by Wayne Parham on Sun, 15 Dec 2019 17:23:32 GMT

All of our crossovers handle full power, even those with the minimum entry level option.

Subject: Re: 3Pi Acoustic Axis and Listening Distance
Posted by Symphonimind on Mon, 16 Dec 2019 01:39:46 GMT

Wayne Parham wrote on Sun, 15 December 2019 11:23All of our crossovers handle full power, even those with the minimum entry level option.

Thank you very much! I will tell my friend in US buy the parts from you soon.

Best regards,
Edwards.