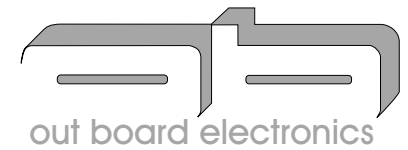




TiMax[®]

Image Definition

Details, Interfacing and Tips:



⊗ TiMax achieves accurate localisations over a large area by using virtual "Image Definitions" created by the user at show set up. In performance, any Inputs "applied" to these Image Definitions (in the Effects Screen) will localise solidly to the focus of the Image Definition(s), and this will be accurate for over 95% of the audience area.

Multiple Image Definitions can be set up, and multiple input sources can be "applied" to them and can even be easily programmed to move between them in realtime.

(See TiMax - EFFECTS SCREEN - Quick Reference Guide for how to apply input sources to Image Definitions and move them around).

This is known as "Source Oriented Reinforcement", or "SOR".

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Image Definitions are a set of relative level and delay values given to speakers distant from the focus (or "anchor") of the Image Definition, the anchor being a "time zero" speaker, or an acoustic source such as an actor's voice or a musical instrument etc.

The delay values given to each speaker reinforcing the "anchor" are arranged so that the output from these speakers is delayed back "behind" that anchor source.

Even though most listeners may be receiving considerable reinforcement energy from these relatively nearfield delayed speaker(s), the psychoacoustic Haas effect of Precedence causes the listeners to localise to the distant "anchor" because they hear the sound from it first (i.e. it is preceding, or "Precedent").

This works even though the anchor source may be significantly attenuated due to its distance from the listener.

TIP:
You can have more Image Definitions than speakers, and/or more speakers than Image definitions.

TIP:
Always arrange to have an "anchor" source located at the focus of the Image Definition, which could be a "time zero" loudspeaker or acoustic source such as an actor's or presenter's voice, or musical instrument.

TIP:
Define and name your Image Definitions in the Show Setup screen before working on programming them in the Image Definition screen.

(See TiMax - SHOW SETUP SCREEN - Quick Reference Guide for how to enter Image Definition names).

Tip: The Input Source selector and fader are for test/monitoring purposes only and are not part of the image definition data.

⊗ To set up an Image Definition, first select it by clicking on the box containing its name. Select an Input Source (such as an Out Board BIPA pulse generator plugged into a spare input) to use as the test signal and adjust it to an appropriate level on the fader below the Input Source selector.

Double click on the Output icon for the "anchor" source (e.g. a speaker at the focus point for the Image Definition) and adjust it to 0dB @ 0mS on the Gain and Delay Scales.

NB: TRIM SYSTEM CROSSOVERS, EQ AND AMPS GAIN STRUCTURE BEFOREHAND.

TIP:
If the "anchor" during performance is going to be an acoustic source, place a temporary "time zero" speaker on the stage at the intended focus for the Image definition, to use as a dummy "anchor" during set up.

TIP:
You can localise to an "anchor" focal source using nearfield delayed speakers in front of or beside a listener, but not so well using a speaker located directly behind them

Then, at the closest audience seating position to the nearest delay speaker, set a large delay (~250ms) and increase the level until the volume levels from the direct and delayed signals sound about the same at that position.

Then start to decrease the delay until the direct and delayed signals fuse together at that listening position, and sound like they are coming from the distant "anchor" focus.

Trim the level using the Gain crosshair so the nearfield delayed speaker is as loud as possible without undermining the localisation effect -- usually about 4-8 dB lower gain than the "anchor". Repeat this process for all the speakers required in that Image Definition, then "walk the room" to check it out.

TIP:
At the audience seating position closest to any nearfield delayed speaker, measure or estimate the distance to the "anchor" speaker, then subtract the distance to the nearfield speaker, then add 10 or 12ms to introduce the Haas localising delay.

TIP:
When trimming the level of each nearfield delayed speaker to get it as loud as possible without undermining the localisation effect, try listening to some voice and other audio samples (e.g. off CD) with midrange and HF content as well as the BIPA.

TIP:
When checking for localisation with a pulse generator (e.g. BIPA) source, make sure you move your head regularly to refresh the brain/ear reference point and eliminate any misleading reflection effects.

TIP:
Use wide dispersion speakers (>90Degrees), and aim the HF slightly over the head of the nearest listener where possible, to provide a more diffuse field as opposed to a direct beam which could undermine distant localisations.

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