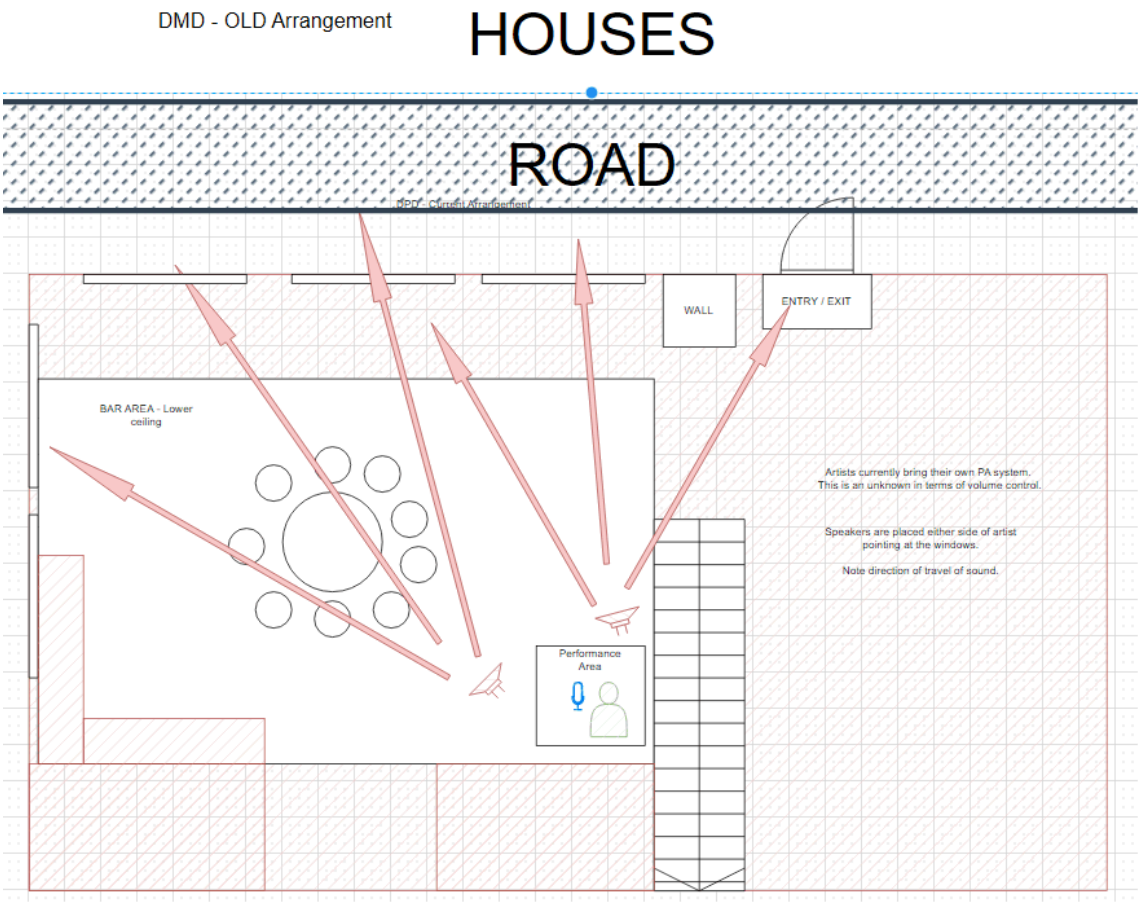
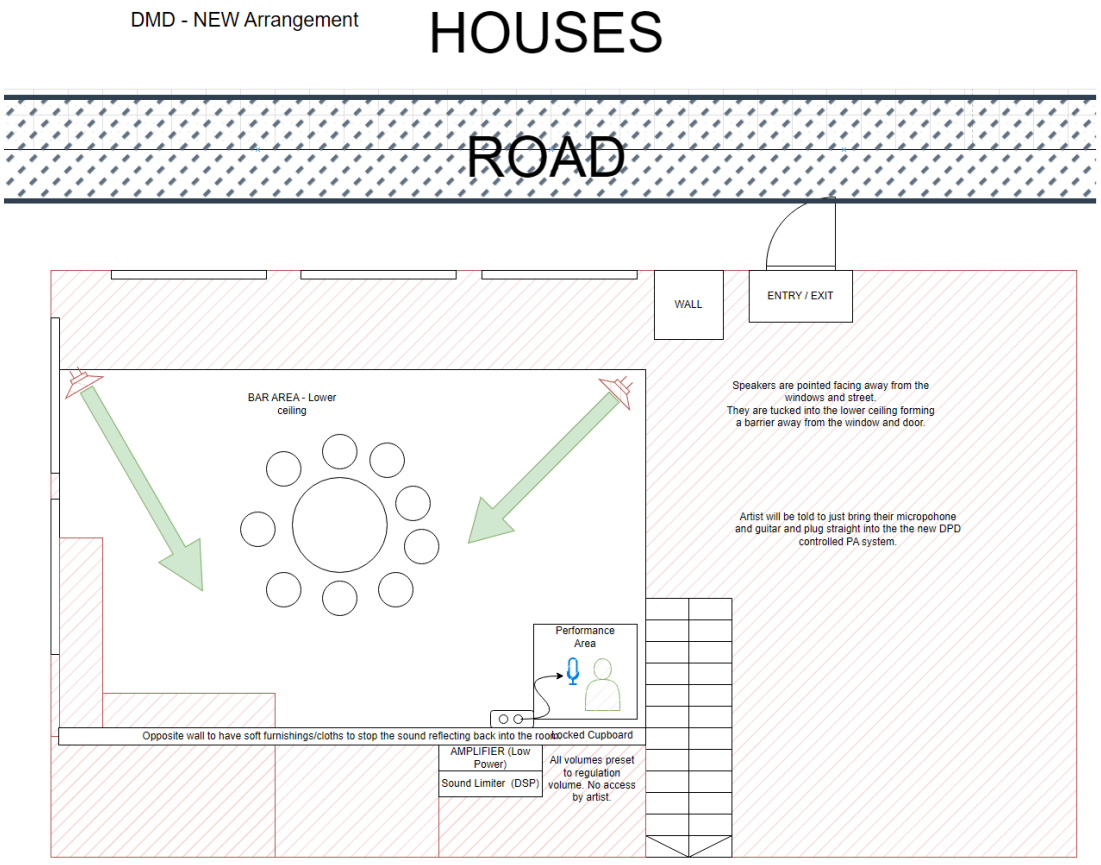
Details and manual of Noise Limiting Device

DMD - OLD Arrangement



DMD - NEW Arrangement



Technical Specification

DBX DRIVERACK PA2

2-in, 6-out Loudspeaker Management

INPUT PROCESSING
- dbx Compression
- AFS™ (Advanced Feedback Suppression)
- Graphic EQ
- 8-Band Parametric EQ (adjusted when using the AutoEQ)
- Subharmonic Synthesis

OUTPUT PROCESSING
- Crossover (supports full range, 2-way, and 3-way systems)
- 8-Band Parametric EQs (used for speaker tunings)
- dbx Limiting
- Driver Alignment Delays

Limiter

Limiters are used to set a ceiling on the signal level, preventing the signal from exceeding a predetermined threshold. For this reason, they are used to prevent the overdriving of equipment. Limiters are compressors with high ratios (typically, a ratio of around 10:1 or higher).

The ratio controls in the PA2 limiter modules are fixed at infinity:1. In live PA sound systems, limiters can be used just before the amplifiers to squeeze the last bit of level out of the sound system and protect the loudspeakers by preventing the amplifiers from clipping. The limiter modules in the PA2 are post-crossover, meaning they can function as band-limited limiters. This allows you to limit the LOW, MID, and HIGH outputs independently. For example, you could apply limiting on the signal feeding the subwoofer amplifier without affecting any of the higher frequencies being sent to the main speakers. This has the additional benefit of making any such limiting less noticeable.

The limiter thresholds will automatically be set for you when you run the Setup Wizard and select your amplifiers or powered speakers from the tuning list. If tunings aren't listed for your amplifiers, check the ever-growing online database using the DriveRack PA2 control app to see if they've been added. If tunings cannot be found for your amps, select the NOT LISTED option. Note that the limiters will not be set when selecting the NOT LISTED option for your amps. Therefore, the limiters will need to be calibrated manually if you wish to use them to protect the system. See 'Manual System Optimization Tips' on page 18 for more information on manually calibrating the limiters.

The PA2's limiters are dbx PeakPlus™ type limiters. They use RMS detection, which provides very musical and natural limiting. They also utilize some functionality from the dbx PeakStopPlus™ type limiters, in that they offer a soft clipping function which helps by rounding out the transients (peaks). This provides additional protection and prevents the system from becoming dull and lacking punch when limiting occurs. These PeakPlus™ limiters have an overshoot of 3 dB, meaning it is possible for transients to exceed the threshold by up to 3 dB.

Limiter Parameters

The Limiter menus can be accessed by pressing the LIMITER button. You will see a list of the available limiters to select from. In all cases you will at least see the HIGH OUTPUT LIMITER. If you've configured a 2-way system, you will also see a LOW OUTPUT LIMITER. If you've configured a 3-way system, you will see an additional MID OUTPUT LIMITER.

Turn and press the DATA wheel to select the desired limiter module. Turn the DATA wheel to scroll through the list of parameters. Press the DATA wheel to edit a selection. When in a limiter menu, pressing and holding the LIMITER button for approximately 2 seconds will advance to the next limiter module, wrapping around through the available modules.