DSP 24 and DSP24B

Features

2 in 4 out speaker processor

Controlled with VIEW, a proprietary software that is included and runs on Windows 95/98/NT

Pseudo FIR (Finite Impulse Response) filters of up to 8192 taps on each output

Up to 66 band equalization on each output

Crossover filters with 0 - 96 dB/octave slopes, any characteristics

High resolution magnitude and phase compensation of the individual drivers is possible with VIEW Pro

The DSP 24 is a 2 in and 4 out digital crossover and speaker equalization unit, which offers outstanding versatility for installed or touring sound systems.

The DSP 24 combines the function of a 2-way stereo or 3/4-way mono active crossover unit, with a system equalization corresponding to a 66 band parametric equalizer. In addition, each output of the DSP 24 also has independent time delay, to acoustically align the speakers and/or drivers. Each output also has a mute switch, a digitally programmable analog gain control and limiter threshold with front panel control knobs.

All crossover and equalization filters are performed digitally in the time domain with a pseudo FIR filter - a combination of FIR (Finite Impulse Response) and IIR (Infinite Impulse Response) which together emulates an FIR filter of up to 8192 taps. Using FIR filters makes it possible to create filters with the amplitude and the phase independent of each other, which enables the DSP 24 user to create filters with mixed phase characteristics. Conventional minimum phase filters can also be created, with any curve or characteristic, with no computing latency.

The digital crossover filters in the DSP 24 can employ up to 96 dB/octave filter slopes.

The system equalization and crossover filters in the DSP 24 are user definable in VIEW, a proprietary software package running on a PC. It takes the user step by step to determine all system parameters. A library of default setups and a library of amplifier and speaker specifications are also included, to which the user can add any amplifier or speaker.

The system equalization can be created by entering one or preferably several speaker measurements into the PC. The software then suggests a "best fit" equalization, with accuracy never achieved before (more information is available in the VIEW brochure and the dba audio website). All parameters created by the software are then transmitted to one or several DSP 24 units via the serial communication or memory card, and stored in a non-volatile memory. Up to 16 setups can be stored in each DSP 24 unit. The DSP 24 can be used without the PC and the setups can then be selected with the switches on the front panel. The software also supports several protect functions, to prevent unwanted changes of the parameters and front panel settings. It also prevents copying of the filter parameters without a user password.

Precision time alignment of the loudspeakers and/or driver acoustic centers

Programmable limiters on each output, with programmable threshold control knobs on the front panel

24 bit, 64 times oversampled delta-sigma A/D and D/A converters, with digital anti alias and recovery filters

48 kHz fixed sampling rate on all inputs/outputs

Up to 300 ms (»100 m) predelay time available, ³ 170 ms(»58 m) available in all setups

Setups are moved to the internal memory of the unit via a COM port on the PC running VIEW

The hardware is prepared for implementation of a COM-port network. It will enable the user to view input/output levels and alter parameters of upto 10 DSP units simultaneously in large systems.

The next release of the software package is under development. It will simplify the control of multiple DSP units, for more information about the software please look at the dba audio website.

There is also a version of this product available called DSP 24B, which is identical in functionality, but it lacks thecontrols on the front panel.

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