Quick Start Tips for Behringer DCX2496 from BESL

Connections

1. Connect the 25' PC Link cable from the DCX to your PC's serial comm port. Laptop users will also need a USB/DB9 adapter cable. This extra cable can be patched onto the long serial cable.
2. Connect preamp L/R cables into DCX input channels B/C respectively. Channel A is reserved for direct digital in. You may need an adapter balun from BESL depending on the type of digital output connector on your transport/DAC.
3. Connect output cables marked 1 through 6 to DCX outputs. Connect amp ends of cables, marked L-M-H to your amplifier channels. Be sure of channels 3 & 6 connections, as these go to your tweeters!
4. Connect speaker cables for L-M-H drivers. Be sure of the tweeter connections! Also double-check all speaker cable polarities at amp and speaker ends.
5. Turn your system volume all the way down, and then switch on your system. Check for only high-frequency hiss coming from the tweeters. For hum problems, float earth ground from every component except the DCX by using 3-to-2 prong wall outlet adapters. Try to get all your equipment on the same outlet by using a power strip or line conditioner/protector with multiple outlets.

Synchronizing DCX and PC

1. Be sure to copy the latest DCX-remote program from the BESL CD-ROM to your hard drive, and then run the program from there. This is the easiest way to learn the DCX controls, and helps to prevent mistakes.
2. From the DCX remote control panel on your PC, choose Connect.
3. Check for the latest firmware version in the Version field. (To update the firmware in your DCX, run the remote program, choose Connect, and then click on Software Update Service. The latest firmware is available on the CD-ROM.)
4. Be sure the DCX2496-> PC button is selected. Click Synchronize to get the BESL preloaded program to upload to your PC. (This step is unnecessary if your DCX came pre-loaded from BESL.)
5. Click Return, and then you can step through the various control tabs.
6. Refer to the DCX Sync Manual for detailed information.

Adjustments to the sound

Caution – Do not ever change parameters on output channels 1-6 X-Over or EQ pages! Otherwise you may detune or even cause damage to your BESL speakers.

Speaker positioning has many sources of information on the web. BESL philosophy matches that on both the Cardas and Audio Physic web sites. Note that you can weight the positioning of your speakers towards good imaging and less for smooth bass or overall tonal balance, since you now have direct control over both tonal EQ and bass EQ.

In general the closer you bring the speakers out towards the listening position, the deeper the sound stage. However there suddenly comes a point where you really notice that the speakers are too close because the sound locks into two distinct sound sources. Also, note that for side-seating listeners (such as in HT applications) you should not bring the speakers out too far, because this effect is exaggerated off axis.

Symmetrical placement of your stereo subwoofers will eliminate all even-order room modes. Typically you will be left with one primary odd-order room mode, which you can trap with a single parameter EQ filter. For symmetrical setup in an overall symmetrical room layout, start with either analog or digital Symmetric preset. The DCX also comes preloaded for Quadrature Bass. This is a special alignment to smooth in-room bass response for troublesome or non-symmetrical rooms or non-symmetrical setup. Typically the left subwoofer is LR 24 LP filter, 90-degree phase, while the right subwoofer is But 18, in phase. These settings are normal, and do not indicate a programming error. Use this alignment whenever you experience extra trouble with room modes, as it will eliminate most odd-order room modes.

Bass level varies from room to room, and is very subjective from person to person. Adjust the bass level with the sliders for channels 1 & 4. Set the level by ear, or with measurements, such as via Radio Shack SPL meter and Stereophile Test CD 2 or 3. You may also use the preprogrammed bass shelf EQ on the input channels, as this operates over a wider band than does just the subwoofer alone.

It is best to adjust for room/system/personal-preference by using global EQ on channels A,B,C. Do not implement these types of EQ adjustments directly into the output channel EQ's. Your DCX comes preloaded with bass shelving and treble parametric EQ. You may change the center frequency, level, and Q to preference.

With a good precision measurement system, you can locate and compensate for room bass modes. Again there is preprogrammed EQ for trapping a bass mode under the input channel EQ's. (The Stereophile test CD and RS meter are not precise enough to properly address room modes.)

It is best to patiently continue to optimize the bass controls until you arrive at a setting that you feel is right under most or average conditions. With optimized BESL bass units, you will find that even 1dB level changes are now audible. However, you will also discover that the bass level varies greatly among audio recordings and video programs. For example, one TV station or a particular show will have louder bass than another.

In general, the bass performance is best when you *stop* noticing it! Usually, when you notice that you like the bass, it is still set too high. But when you notice the *impact* of the bass as it integrates with the entire sound, then it is set right.

BESL monitors are designed for THX bass response and are compatible with the Small Speaker setting in HT preamp/processors. However, I have found the THX 80Hz subwoofer/monitor crossover frequency requirement to be less than optimal for typical

home listening room conditions. This is because the monitor experiences the upper part of the room gain range if the cross point is set to 80Hz. Since the room gain effect varies among rooms, the precise matching of the BESL crossover is left to chance. Therefore I found that a cross point of 120Hz moves the pass band of monitor above the room gain curve, and leaves the pass band of the subwoofer completely inside the room gain curve. In this way, the subwoofer/monitor crossover performs as intended in all rooms. Furthermore the midrange remains clean since a steep slope is used to reduce bass going to the monitor. And finally, the subwoofer is "given something to do". With more separation between the subwoofer subsonic roll off frequency and midrange roll off frequency, the bass just sounds better.

Tonal balance also varies among listeners and with room characteristics. There is a pre-programmed global filter (input channels) that adjust "tilting" of the tonal balance through the midrange and treble. This PEQ filter is centered at 4kHz, and with very low Q value of 0.25. Simply change the gain of this filter from 0 to -1 to down-tilt the response from 300 to 10kHz. The top octave and bass octaves are left untouched. The subjective effect of this filter is to move you further from the performance. It is also effective for extra "live" sounding rooms or for other overly bright conditions. Conversely, an overly "dark" condition can be alleviated by using a positive value of gain, e.g. +1dB on the filter.

Storing and Recalling Programs

It is suggested you save any changes to a new store location. Click Store to.. / Store to Internal Presets, and then choose a new location in which to create a new program. Also Click File / Save Set As to store this program to your hard disk. To store ALL the presets, choose Click File / Save Internal Presets As.. to store the entire set to your hard disk. It is a good idea to always switch to the Display tab before any store operation. There is plenty of room left to burn programs directly onto the CD-ROM, thus making your presets portable with your laptop.

When lost, simply recall any of the programs that begin with '0' as these are factory settings that were adjusted under echo-free conditions. Then immediately adjust the overall bass level on channels 1 & 4 again. When *really* lost you may reload the factory default programs from your CD-ROM or hard drive. This will be a file with the phrase "all presets" in the name.

Application Support

With BESL, you have unparalleled support for DCX applications! Don't hesitate to contact us with questions or problems.

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