

brainworx 

# bx\_digital V2 manual





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## 1. What is bx\_digital V2?

bx\_digital V2 is a latency-free 11-band stereo EQ and stereo De-Esser that works in several modes, among them 2 sophisticated M/S modes for mastering and microphone recordings.

It is based upon the “modern classic” bx\_digital V1 and the analog bx1 EQ. We developed this hi-end analogue EQ 2006/2007 and we offered an emulation of this EQ ever since.

The hardware bx1 is our „MODUS EQ“, an analogue high class equalizer that runs in four different modes, giving you up to three channels of extremely musical filters:

- a conventional L(ef) and R(ight) stereo mode for any stereo/dual mono applications.
- a stereo mode with a built-in M/S-matrix, mainly used for stereo mastering purposes.
- a 3-channel mode (one stereo PLUS one mono channel) for surround mastering & recording studios purposes.
- an M/S-Recording-mode that will use two individual microphone-signals (M&S-signals) fed into the bx1 to create a highly mono compatible stereo signal, mainly used for orchestral recordings, choirs or for recording acoustic instruments in general.

The hardware bx2 is an „Image Shifter“ and De-Esser that can work in M/S mode as well and therefore is the perfect extension to our bx1 when it comes to mastering stereo signals. It also includes a „Mono-Maker“ that allows you to mono the bass frequencies of your mix from 20 Hz up to 22 kHz to make sure your bass-section is „tight“ and compatible for vinyl-pressings.

The bx\_digital V1 was an exact emulation of both units´ features, our state-of-the-art equalizer bx1 and its expansion unit bx2, with only one mode of the hardware (the 3-channels-mode) not working (for audio host standard reasons). Together these two units are the perfect choice if you are looking for an extremely musical and tasty way of eq-ing and de-essing stereo signals (mixes), most likely in a

mastering process, or if you are into mixing and sound-design as well as recording with M/S-microphone-technique.

bx\_digital V2 now offers additional features that neither the original bx1 analog EQ nor the v1 plug-in offered.

→ [Details: see chapter 5.](#)

## 2. What is M/S technology?

Most engineers who are recording music know about the M/S microphone technique (two different microphones for stereo recordings - an OMNI or CARDIOID microphone for the M (mid) signal and a “FIGURE-OF-8 microphone” for the S (side) signal).

Recording a signal with M/S microphone technique means to create a stereo (L/R) signal by mixing the M and the S signals together in a special way that will result in a very mono-compatible stereo signal. To record in M/S you have to feed the M-signal to the Left and Right channel of your mix and the S-signal will be fed phase-correct to the Left channel and phase-reversed to the Right channel. This means you will have to split the S-signal and use a total of 3 channels for only 2 microphones that will be mixed together to create a conventional stereo-signal. Quite confusing?

Well, bx\_digital V2 does all that work for you, just feed it with the separate M- and S- microphone signals and switch it to M/S Recording...

For additional details about this technique you may have a look into any decent audio book. Please do so if you want to learn more about this method to create very mono-compatible stereo-signals, e.g. when recording classical music, drums, choirs or acoustic instruments in general.



### 3. What is M/S good for in Mastering?

Well, it may sound simple, but the bx\_digital V2 has a built-in M/S matrix that will separate any stereo signal into its mono sum and the stereo difference signals. Thus you are able to separately control these two signals which can be very useful when you work on a stereo mix that has certain „problems“ - or if you simply want to enhance certain elements in the mix.

Ever tried to cut high frequencies of a mix to reduce the „essing“ of the lead vocals and at the same time boost high frequencies of your harmony instruments (guitars, keyboards, pianos, etc... most likely recorded or mixed in stereo)?

With bx\_digital V2 and its M/S modes you can do exactly that.

### 4. But what's so new about V2 then?

First of all, all the great things about bx\_digital are still in V2, we have not sorted out anything. M/S modes, Solo S and Solo M etc. are still on board.

Then we have added features from both, the TDM version of bx\_digital (7-bands, Auto Solo Mode, etc.), and from bx\_hybrid as well (Auto Listen Mode).

Add all new and improved audio filters (EQ bands) and you have a GREAT stereo EQ.

EQ-ing in M/S will cause “non-linear” phases, but most experienced mastering engineers use this technique if a mix needs it, and if used with caution (a great advice on most things that are fun...) M/S processing can be a very creative and powerful weapon.

Since bx\_digital V2 also has a “regular L/R mode”:  
You don't have to do all this all the time... but you can... :-)

Also, while there were quite some M/S - tools released after bx\_digital V1 first

came out, one original BX feature is the possibility to SOLO your M or S - signal, which means you can listen to ONLY the M or S signal of your mix and work on these two signals individually – phase corrected automatically.

“Why is this so unusual?” you might ask now. Well, although the S signal is included in a regular L/R stereo signal, it is not in phase on both channels, so we had to come up with an easy way to correct that each time you want to listen to your S-signal solo...

Start by playing some stereo mixes through your bx\_digital V2 plug-in and push the solo button of the S-section... you will be amazed of what you will hear... you will be able to correct stuff you have never even heard before in your mixes!

Then dig some deeper, try the Auto Solo and Auto Listen Modes, the Shifter EQs, etc. You will quickly get the concept this way.

### 5. Features of the bx\_digital V2:

#### bx1:

- 7-band mastering quality EQ with Shelving, Bell and Pass-Filters.
- “Auto Solo” and “Auto Listen” Modes
- Unique and new “SixPack” master section: (6 knobs)
- Input Gain and Balance features to adjust incoming levels and to balance out mixes that are not 100% centered.
- Individual PAN for M and S signals (in all modes) to control the output balance - with more precision than ever.
- Stereo Width Control for your mix. Make your mix wider without an effects processor by increasing the S-Signal - in ALL modes.
- Filter section includes new Lo-Shelving, Hi-Shelving, full-parametric Bell type, Lo-Pass & Hi-Pass filters. All 7 bands have been adjusted in frequency-range and type-selection by international mastering engineers to help you get



professional results for your mixes instantly.

- Output Gain to adjust overall levels.
- New mouse wheel control (place the cursor above any knob and use the mouse wheel...)

### bx2:

- 4 more EQ bands (in the Shifter EQs), a dynamic EQ/De-Esser & more.
- Image Shifters for your bass frequencies and high frequencies. Tune your lo-end and hi-end of your mix for a „bigger“ overall sound with „more air“ at the same time and control potential harsh frequencies in your mixes.
- De-Esser/dynamic EQs. Solo buttons let you listen to what you cut away separated from the mix.
- Mono-Maker: Adjust the MonoMaker from 20 Hz to 22 kHz and your stereo mix will be Mono up to that frequency by cutting away the low-end of the stereo-difference of your stereo-mix - and adjusting the potential loss of bass frequencies in the Mono-Sum automatically! Ever had problems to cut your electronic music mixes with synthesizer basses to vinyl? Do you want to make sure your bass sounds are tight on disco speakers that might be spread all over the place? Try the Mono-Maker.
- the bx2 works in M/S - modes just like the bx1, so you can give your mixes that extra lo-end on guitars and synths that the pros have without getting rumbling on your bass drums, basses, etc., or de-ess your voice very tight without making your whole mix dull, etc.

### EQ-Panel:

- shows up to 11 bands of EQ for M and S separately (for all bx1 and bx2 EQ bands)

## 6. How do I get started with bx\_digital V2 in a typical mastering or recording-session?

Mastering music is all about hearing objectively and enhancing musical performances if possible... but it is (often enough) about correcting mistakes that have been made in a mix session. This sounds basic, but we mean it very literally!

We assume that most if not all people who have purchased bx\_digital V2 are familiar with using a standard L/R-EQ, so we will skip the total basics of “how to use an eq” and go on with less common-known EQ-techniques...

In fact if you have a more or less “perfect” stereo-signal to work on (e.g. a very good mix) it might be a good idea not to change it at all or at least not very much, so you might be ok with using the “regular” L/R-mode of the bx\_digital and use the EQs rather carefully.

But, let’s assume we have an average stereo-signal (e.g. a mix) with some problems that we want to correct. – It’s just... how can you correct problems you can’t even hear exactly?

That’s over now... in the M/S-mastering-mode bx\_digital V2 can transform your stereo mix into 2 easy-to-adjust mono sums (M & S, or “Sum & Difference”), and the bx1 lets you hear both sections perfectly in-phase. This way you can hear any problem of your mix very obviously and also make any improvements to your mix simple but precisely.

We propose you start working with bx\_digital V2 in M/S-Mastering mode (that’s the default setting) by simply listening to some of the mixes that you know very well or to some of your favorite CD-tracks.

While you do so press the solo - buttons of the M and S - sections alternately to get used to how your mixes sound separated into these 2 mono sums. You will very fast be able to hear stuff inside your music that you might want to correct / adjust, so why don’t you just do it?



Start EQ-ing the M- and S-section individually while Solo-ing the respective section - and don't forget to switch the Solo-buttons off from time to time and listen to your complete mix in "full stereo sound" again. This way you get a feel for how your adjustments on the individual sections effect the whole stereo mix! After you have used a few EQ-bands on your mix compare it to your original mix by using the Bypass switch of the whole unit and/or of individual EQ bands (a new feature in V2).

Mastering in M/S takes a little time to get used to - it's just really different EQ-ing 2 separate mono-sums than EQ-ing conventional L&R-signals. But, it's a very musical way of working, and there IS a reason why some of the top mastering studios in the world have been working like this for ages with custom-made M/S-boards - without really telling anybody...

M/S-Mastering might just be the key for your music to sound as big - yet still open and clear - as productions often referred to as being „BIG“... :-)

Many people who have used the M/S-modes for the first time told us that they had the impression of a "3D-like" depth in their mixes after processing the M- and the S-Signals individually. While using the M/S-technique for mastering does affect your phases in the stereo-signal we do not see this as a problem. In M/S modes altering phases is done intentionally. Of course, though, the M/S mastering mode works best if you want to correct small mistakes in your mixes... for adding or cutting away big amount of general bass or treble signals you might be better off working in L/R-mode...

→ TIP: if needed simply use two instances of bx\_digital on your master bus. one in L/R mode, the second in M/S mode.

Once you are used to the basics of M/S you might easily get into more detailed functions... try balancing out a mix that is not centered 100% (most mixes that come from an analogue desk with inserted compressors, EQs, in the main stereo insert, etc. are not balanced 100%!) by Solo-ing the S-section and adjusting the Balance Gain until all the things that should be centered (like bass drums, snares,

lead vocals, bass, etc.) in your mix disappear completely.

If that's the case you can be sure that your mix IS balanced!

Make your mix wider than it originally was by increasing the Stereo Width without losing the center of your recordings! You will not loose bass drum power or vocals by making your mix wider this way... and it will not sound different played back in mono at all.

Otherwise, if you have a drum-loop that was recorded with too much ambience sounds / reverb, just get rid of it by decreasing the Stereo Width (in all modes!).



## 7. Overview and Details



bx\_digital V2 - Screenshot

### 7.1. EQ-Section M (Mono) or L (Left), depending on the selected mode



7 Bands, 5 of them with G (Gain), f (Frequency) and Q (Quality) pots, plus Hi-Pass and Lo-Pass filters

- LF: switchable from shelving (1st order) to peak via Q-pot
- LMF: peak
- MF: peak
- HMF: peak
- HF: switchable from shelving (1st order) to peak via Q-pot
- Lo-Pass: 1st order
- Hi-Pass: 1st order

Please notice that each EQ band can be activated and bypassed (on/off) individually by clicking the labeled buttons. A bright name indicates ON.



### 7.2. New "SixPack" Master Section



6 knobs to control general settings, independent of which mode is being used.

From Left to Right (top row):

- Gain In: Input Gain adjustment for both channels (L/R or M/S).
- Gain Out: Output Gain adjustment for Master Out [L/R].
- Stereo Width: make your mix wider by increasing the Stereo Width (=boosting the S-signal) or decrease the Stereo Width to reduce ambience etc. (=reduce the S-signal)

From Left to Right (bottom row):

- Bal. L/R: "tilt" the image of your stereo sound by changing the balance of Left and Right signals



- Pan M: with this unique and new feature you can center un-centered mixes, or create great effects by panning the “center only” (drums, vocals, bass, etc.) of your recording to the sides!
- Mixes from analogue consoles often have the problem that the “theoretical center” (these are the elements that should be in the center, like lead vocals, snares, etc.) are slightly off-axis because of analogue inserts (compressors, EQs, etc.) in the master sum. With the Pan M you can easily correct this, without effecting the stereo information (guitars, keys, reverbs, etc.) too much, and without tilting the whole stereo image (see Bal. L/R)
- Pan S: tilt the stereo information without changing the center section of your mix too radically. Mixes with uneven stereo information (doubled guitars that are not perfectly centered for example) can easily be adjusted.
- The results of Pan S are much more subtle than Pan M, and we do not recommend doing drastic changes here.

### 7.3. The Brainworx logos in the GUI



Click them to get credit info, release versions, etc.

### 7.4. The Modus knob



The Modus knob lets you select between the 3 different “modes” the bx\_digital plug-in can work in:

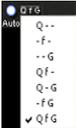
- M/S-MASTERING-mode: for individual processing of the mono-sum and the stereo-difference of any regular Stereo-Signal.
- L/R-mode: for conventional L/R-processing, linked or un-linked.
- M/S-RECORDING-mode: this mode will provide a Stereo signal at the master output if bx\_digital is fed with separate M&S-microphone signals or audio tracks.

### 7.5. Auto Listen, Solo, Auto Solo, Channel swap, Linked features, EQ off



- Auto Solo:  
Auto Solo is taken from the TDM version of bx\_digital V1, and is now available for all versions. When enabled bx\_digital will automatically switch to Solo M/ Solo L as soon as a knob of the left EQ section is being clicked, until you release the knob again. The same goes for the right EQ section (Solo S/Solo R, depending on the mode bx\_digital works in). Auto solo also works with touch sensitive controllers, such as digidesign´s C24 or icon controllers.
- Solo M/Solo S (Solo L/ Solo R):  
To listen to only the M or S signal phase corrected and mono-ed on both speakers just enable Solo M/Solo S. In the L/R mode these selectors become Solo L/Solo R, of course, but work just the same way.
- L<=>R (channel swap, pre EQ):  
This feature swaps left and right channels within bx\_digital V2. As stereo mixes sound very different when channels are swapped this can be a creative tool in mastering sessions.
- Link LED:  
The Link LED will be ON as soon as any feature of bx\_digital is linked. This can be an EQ band, the De-Esser, or a Shifter.  
Also, you can link/unlink all bands and features clicking the Link LED.  
A click on any Link button will copy the setting of the button you click to the other side.  
Accidentally clicking the Link button can destroy your whole EQ settings – but we have a 32 step undo /redo on board now, so this won´t be a problem anymore.  
→ Pls see “22” (Undo/Redo).



- EQ on/off:  
Here you can switch ALL EQ bands on or off, this will not bypass the De-Esser, the Mono-Maker or the SixPack master section (Stereo Width, etc.) though.  
→ If you need to bypass the whole bx\_digital please use the dedicated Bypass switch in the top left corner or use your audio sequencer's plug-in bypass.
- AUTO LISTEN MODE(s):  
One of the new features of bx\_digital V2 and a powerful tool to select proper center frequencies in audio material that is hard to judge (Tom Toms, Vocals, Bass sounds, etc.).
- The AUTO LISTEN POP-UP MENU:  
When you click on the letters next to the blue Auto Listen LED a pop-up menu will appear. In this menu you may choose which Auto Solo Listening features you want to use. 3 different functions of each EQ band can be switched to Auto Listen Mode:  

  - "Q f G" (initial setting):  
Will make bx\_digital V2 auto solo all EQ features each time you click on either a G [Gain], f [Frequency] or Q [Quality] knob.
  - "- f -":  
For example will only enable the Auto Listen features for the f (Frequency) knobs, but not automate G & Q, and so on...

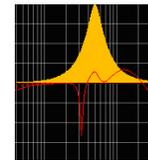
## AUTO LISTEN MODE "Q"

This auto listen mode will boost or cut the respective EQ band's gain to either (+12dB with positive Gain settings and "zero") or (-12dB with negative Gain settings) whenever the Q knob is being clicked or touched (via a touch sensitive controller). As soon as you release the EQ band's Q knob the gain setting will jump back to the actual G [Gain] setting. Clipping is avoided automatically.

Notice that the temporarily EQ setting of the AUTO LISTEN MODE is always being displayed in ORANGE color while the actual EQ band's gain setting is still being

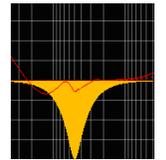
displayed in RED color.

- You HEAR the ORANGE setting when you see it.
- Mouse wheel control:  
Notice that changing knobs using the mouse wheel (just place the cursor above any knob of bx\_digital V2 and turn the wheel!) will not engage the Auto Listen Mode. This is a nice way to avoid bypassing the Auto Listen Mode for small changes that you prefer to do without this mode.



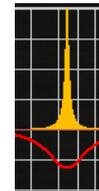
Auto listen "Q" with positive gain

Whenever bx\_digital boosts AUTO bands to +12 dB temporarily the overall output volume is always being controlled and adjusted intelligently to avoid clipping automatically!



Auto listen "Q" with NEGATIVE gain

## AUTO LISTEN MODE "f"



This auto listen mode will play a very steep (narrow) and inversed notch filter sound of the actual audio signal as long as you click a knob or grab a (touch sensitive) controller pot or fader.

This lets you hear the center frequency you are searching for exactly – and all this without the multiple mouse clicks or controller moves that needed to be done without the Auto Listen feature.

- Gain up to the max, Q to a very narrow setting, sweep through the frequencies, re-adjust the Q, re-adjust the gain, etc... you know what we're talking about... :-)



## AUTO LISTEN MODE “G”

This AUTO LISTEN MODE finally is pretty easy to explain... as long as you click a Gain knob (or grab a touch sensitive controller pot or fader) all other bands of that EQ will be bypassed. This way all you hear is the touched EQ band solo-ed, without other EQ bands eventually effecting / overlaying your EQ setting.

This may or may not be wanted, so remember: you have the choice to activate or deactivate each and every AUTO feature (Q, f or G) or any combination of these 3 features using the Auto Listen pop up menu. (see -12- above)

The Auto Listen Mode can be switched off using the blue LED.

## 7.6. EQ-Section R (Right) or S (Stereo/S-signal) depending on the selected mode



The same 7-band EQ section as for the L section (or respectively the M section, depending on the selected mode), please check “1”.

## 7.7. Window switch

 You may hide the graphic EQ curves if you want to save some screen space (we know bx\_digital is not a small plug-in...), or if you simply prefer EQ-ing without seeing the EQ curves. Just click the “arrow” symbol.

## 7.8. & 7.9. LEDs for the L/R or M/S sections



We have included a digital level control in bx\_digital V2 that the hardware does not have. Red LEDs indicate potentially distorted signals in the respective signal-path and should be avoided...

## 7.10. & 7.11. Bass Shift



The Bass Shift is an „intelligent“ EQ band for the bass frequencies of your mix. We call it Bass Shift because 2 different frequencies will be „shifted“ against each other with the turn of just one knob. The frequencies have been pre-set and cannot be changed. If you are looking for a sweepable Bass- (and Presence-) Shifter please check out bx\_hybrid (available individually).

The Bass Shift EQ can be used to easily adjust the overall bass sound of your recordings in a professional yet easy & fast way... turning the Bass Shift to the right will „push“ your bass down one octave by boosting one part of your bass frequencies while at the same time cutting other (higher) bass frequencies. Turning the BASS SHIFT to the left will cause the opposite...

→ Please check the EQ panels (17. & 18.) to actually see what you are doing when working with the Bass Shift!

Turning your BASS SHIFT to the right will result in a more „indirect“ and „deep soft“ bass sound, while turning to the left will result in a „drier“ bass sound.



- A lot of contemporary pop & rock productions can be enhanced with „phatter“ guitar / keys sounds by turning the Bass Shift to the right up to 2 or 3, and the same setting will make your bass drums sound huge!

## 7.12. & 7.13. Presence Shift



A similar function to what the Bass Shift EQ does to your bass signals for the high end of your recordings. Turning the Presence Shift EQ to the right will put more „air“ into your mixes without making them harsh!

- For M/S-modes: Try filtering out all the harsh frequencies of your mix in the M section with your EQ M and the M section of the De-Esser M [14.] and then make sure your mix doesn't sound dull by putting back some high frequencies into the mix via the EQ S [“6”] or the Presence Shift.
- The Presence Shift boosts frequencies above the ones that usually cause sibilance problems with voices. So you can try to de-ess your main voice (most likely to be in the center of your mix) with the M section of the bx's De-Esser [“14”] and then set your Presence Shift of the S channel to 3 or 4.

## 7.14. & 7.15. De-Esser L/R or M/S (depending on the selected mode)



The bx\_digital De-Esser works with dynamic EQs that you can adjust to the needs of your mix. With the Solo buttons of the De-Esser section it is possible to listen to only the frequencies that you want to filter out of your mix.

- When working in L/R-mode you should link the two channels to avoid unwanted permanent “panning” of your stereo-signal caused by uneven volume changes in the L or R channel.
- Solo the respective section of your De-Esser on the bx2 panel. Turn up the De-Esser knob until you start hearing some high frequencies. Adjust the frequency to be filtered with the „f DSR“ knob and set the De-Esser knob to a value where the De-Esser will deduct as many high frequencies as you need to be filtered out.
- Use the De-Esser's LEDs to control the De-Esser's gain deduction.
- When the De-Essers of both channels have been linked in L/R-Mode, the detection signal for both channels will be a mono-mix of both channels. (L&R)

## 7.16. Mono Maker



The Mono Maker will mono out the bass frequencies of your stereo mix, adjustable from 20 Hz up to 22 kHz, using M/S-technique even when the bx runs in L/R-mode.

The Mono-Maker will cut off bass-frequencies of the Side-Signal (S-channel) and will compensate this automatically in the Mid-Section (M) of the stereo mix with a dedicated shelving EQ in the mono-sum.

- This is a great tool for vinyl mastering, since it is essential to make sure that your lowest bass frequencies are mono, otherwise the needle could jump off the groove of the vinyl record.

Especially when you master electronic music or modern heavy metal sounds with huge stereo bass sounds (synthesizers, low end doubled metal guitars, etc.) to vinyl for promotion copies / DJ copies make sure to mono out your deep bass sounds.

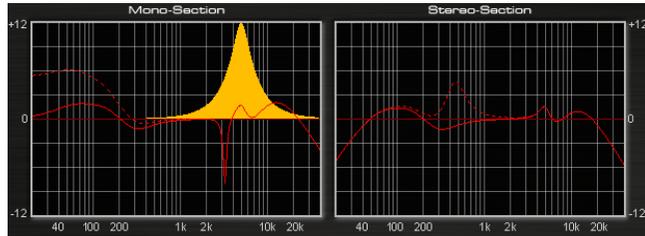
- Mono-ing your bass up to 60 / 80 Hz can also make a big impact on bass and bass drum sounds in general, and it will make sure that your bass sounds sound „tight“ on every single speaker of a big disco speaker systems that might use a lot of speakers (combinations of L and R signals) throughout the



room[s] and (one or several) subwoofers.

- Setting the MONO MAKER too high can result in an audible loss of stereo width for certain instruments, i.e. low-end heavy guitars or synthesizer basses. A setting of up to 80 or 100 Hz should be fine with any kind of music, for higher settings: use your ears, please. :-)

## 7.17. & 7.18 EQ-Panels



The EQ panels show you all the EQ curves of bx\_digital V2 separately for the L/R or for the M/S sections of your mix. Unlike a lot of other EQ plug-ins we have

not included any possibility to change your EQ settings via the graphic panel, and we did that on purpose.

There are simply too many EQ-bands (if you keep in mind that the BASS SHIFT and PRESENCE SHIFT are displayed additionally to the 7 „regular“ EQ bands of each section.

Otherwise we feel that mastering and recording music (the main applications for bx\_digital) is all about making cautious changes to your mix (unless the mix you work on was completely screwed up...), and when we tested bx\_digital and EQ-ing in the panels often led us to making pretty big changes very quickly.

In the end we also wanted to give you the “feel“ of the hardware as authentically as possible, so we decided to make the EQ panel only a visual control tool for what you do with the knobs of the bx\_digital – or your mouse:

## Mouse Wheel - Control:

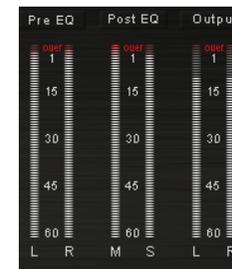
It is possible to use the mouse wheel to control all knobs of the EQ! Just place the cursor above any knob and turn the mouse wheel up or down... no clicking needed ever...

This is also a very cool alternative when working with Auto Listen Modes. In case you want to make some changes using the Auto Listen Mode and some without just use the mouse wheel for the latter – and the Auto Listen Mode will not be engaged.

- Type in exact values:

Please notice that it is also very easy to type in exact values to any parameter of the bx\_digital by simply clicking on the text fields below each knob. This makes it particularly comfortable to tune your EQ-bands to certain frequencies.

## 7.19. LEDs/multiple levels (L/R & M/S)

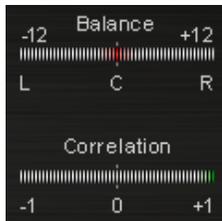


We have included dedicated LEDs for the Input Section (L&R), the M&S Section and the Output stage (L&R again), so you have total optical control over what you hear and what you do. Like with every other digital audio tool you should not push your levels into the red!

- Even in L/R-mode the LEDs will show the M/S-signal, just for control purposes.
- In M/S-Recording-mode the first LED-segment will show M/S instead of L/R. This segment shows the input stage of the bx\_digital since you are expected to input 2 individual signals (M&S instead of L/R) to the bx\_digital in this mode.



## 7.20. Correlation & Balance Meters



2 more new features for V2.

Balance will show how the energy of the mix is shared between L and R channels. You can use the SixPack master section to alter Balance, Pan M & S.

Correlation is a standard correlation meter. It can be handy to check phases when doing bigger changes in M/S.

## 7.21. Bypass



With the BYPASS button you can bypass the whole bx\_digital plug-in to compare your original mix and your corrections / improvements with the bx\_digital.

## 7.22. Undo/Redo (32 steps)



One of the most exciting new features of V2 is the 32 steps Undo/Redo functionality. Every V1 user who has accidentally pushed the Link All knob knows what we´re talking about.

Now you can just experiment and Undo whatever you don´t like. Together with the new A/B/C/D settings and Copy/Paste (see "23") this is an engineer´s dream.

## 7.23. Settings (A/B/C/D)



You can now store up to 4 Settings of bx\_digital V2 without using the audio sequencer´s "Preset window" (most of them are not really fast and intuitive to use...).

Start with one Setting (A by default), copy it to B (press "copy", click B, click "Paste", done!), then compare A and B. The same goes for C and D, of course. Also, you can Reset single Settings.

Using Automation in mastering can be helpful to get the maximum out of your mixes. Maybe your mix needs different EQ-settings for various parts of the song?

Settings are the way to go... and once again... you don´t HAVE to do it.. but you CAN..

You´ll get it easily... :-)

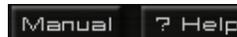
→ Presets: (in your audio sequencer host program)

It´s still a good and professional idea to store one preset for every song that you master, even if you use Settings, maybe even make folders for certain projects, albums, etc.

All 4 Settings of bx\_digital V2 will be stored with each Preset!

This way you can easily recall any preset you made to change settings after you checked your mixes on other stereo systems (outside the studio). Keep in mind: if YOU don´t do it.... your customers WILL! :-)

## 7.24. Manual & Help



Press Manual to open the PDF version of the manual which will be saved on your computer during installation.

Help will open a small "splash screen" in the plug-in window that will explain the most common shortcuts to operate bx\_digital V2 with ease.

Please see "25" for these shortcuts and some tips.



## 7.25. Brainworx keyboard shortcuts

- SHIFT/MOUSE CLICK on any knob will change the bx\_digital´s knob behaviour (toggle between linear and circular)
- ALT/MOUSE CLICK: will reset any knob to its initial value
- APPLE key (Mac) or CTRL key (PC) plus MOUSE CLICK (or SCROLL WHEEL USE above any parameter!) will allow for fine tuning of any knob.
- SCROLL WHEEL CONTROL: place your mouse above any knob and turn the mouse wheel to increase/decrease values.
- Also, any bypassed feature of bx\_digital will not use any CPU power.
- TYPING IN VALUES into your plug-ins will save you some time:

→ GENERAL TYPING:

10.000 Hz can be typed in as “10k”, 12.000 Hz would be “12k”, etc.

## 8. Troubleshooting

- ✘ Incomplete signals
- ? You might have clicked on one or (or more) Solo-buttons of one section (L/R or M/S), so you only hear parts of your signal. Make sure both Solo buttons are switched OFF to hear your stereo mix.
- ✓ Switch all Solo switches OFF, and you should hear your regular stereo signal.
- ✘ Phasing/wrong panoramas
- ? If you hear parts of your stereo signal not properly in place panorama-wise you might be working in the M/S-Recording mode with a standard-stereo-signal running through your bx\_digital plug-in!
- ! NEVER use the M/S-Recording mode for processing stereo-signals (like mixes!), unless you want to experiment with sound-design...
- ✘ NO sound
- ? Do you feed any sound into bx\_digital V2 at all???? :-)

## ENJOY WORKING WITH bx\_digital V2!

→ For more information and a video demo please visit:

[www.brainworx-music.de](http://www.brainworx-music.de)  
[www.brainworx-usa.com](http://www.brainworx-usa.com)

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