



2BusControl

User Manual

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Introduction

Thanks for installing your copy of MAAT's 2BusControl Plug-in. We've worked hard to make this an exceptionally useful and usable tool for speeding up your audio workflows.

2BusControl is a universal L/R plus M/S monitor control and metering plug-in for your stereo master bus. Available for all major plug-in formats, including VST/VST3 and AAX for MacOS and Windows plus Audio Units for Mac OS, 2BusControl offers five essential options for specific monitoring modes plus display of left/right balance as well as an intuitive correlation meter.

Monaural solo is available post-metering with a single button push. Left only/right only soloing can be chosen, or an equally useful M/S or Mid-MONO and Side/DIFF(ference) rendering of the soloed signal. In addition, the stereo perspective can be swapped or "flipped," with the left and right channels changing places. Each solo control is a single button, allowing you to check placement and amplitude easily for all aspects of your mix.

Usable metering is another essential for any engineer, and options are equally practical, with stereo balance and inter-channel correlation occupying the upper half of the user interface. Unlike prior products that provide similar metering functions, 2BusControl's measurement and display algorithms adhere to our guiding philosophy of enhancing your workflow and improving ergonomics through careful attention to the way you actually work. Ballistics are meticulously tuned to achieve the best match between the aural impression you hear, and the optical rendering by the meters.

All of 2BusControl's functionality is wrapped in an information rich yet visually unobtrusive user interface that occupies only a small portion of screen real estate. Likewise, the plug-in is "light weight," demanding a minimum of CPU resources so it won't slow down your host.

Specifications

System Requirements

- Mac: OSX 10.8 and newer, 32 & 64 bit
- Win: Windows 7 and newer, 32 & 64 bit
- Pro Tools 10.3.10 and newer
- 4GB DRAM minimum

Supported Platforms

- AAX, AU, VST2/3 Mac, VST2/3 Win

Supported Hosts

Ableton Live, Cubase, Logic, Nuendo, Pro Tools, Sequoia, Studio One, Wavelab

Installation & Setup

In preparation, we recommend that you quit all audio applications prior to installing. Also prior to installation, disable all anti-malware measures you may have running on your host computer.

To install, simply double click on the downloaded Installer for your particular operating system. The installation process will guide you through the install procedure. After the installer completes, restart your host to allow all background processes to restart.

The Interface

Introduction

The 2BusControl installer places two versions in your host, a full size version and a “micro” version for use where screen real estate is limited. The full size version appears in your DAW as *MAAT 2BusControl*, while the minimalist version appears as *MAAT 2BusControlMini*. While their appearance differs, their functionality and use are identical.



Figure 1: The full size 2BusControl user interface



Figure 2: The 2BusControlMini user interface

Metering

BALANCE

The horizontally oriented Balance meter displays traditional left/right balance, with left-heavy signals appearing in blue, and right-heavy signals appearing in orange. Center panned or mono audio is shown as an

extra bright green indicator light. The green area spans from 0.5 dB left to 0.5 dB right. Left and right from perfect center, there are +1, +2, & +3 tick marks indicating that the respective channel has 1, 2, or 3 dB more RMS loudness than the other channel. This allows you to see, judge, and react to imbalances appearing over a sustained period of time in a stereo mix.

Note that R128 Loudness meters display mono measurements, so they can't provide any indication of actual balance.

CORRELATION

Also horizontally oriented, the Correlation meter displays the phase relationship between left and right channels. This meter can also be thought of as graphically displaying mono compatibility, by measuring the phase relationship between left and right.

In-phase content is shown in green, while out of phase content pushes the meter into red to warn you something may be amiss.

0° of difference between channels = hard right — green is good

90° of difference between channels = meter center

180° of difference between channels = hard left — red equals caution: possible amplitude reduction or total cancellation when summed to mono

L · R

The FLIP or left/right swap button causes the left signal to appear in the right monitor channel and vice versa. This monitor mode button is useful for confirming actual amplitude when your room, monitors or ears are not quite calibrated. When active, FLIP mode displays an orange light.

SOLO Modes

LEFT/RIGHT

The LEFT and RIGHT buttons provide monaural soloing of either the left or right channels. When active, LEFT and RIGHT solo modes display a blue light.

MONO/DIFF

The MONO mode provides monaural soloing of the sum of left and right channels. This mode behaves as a typical mono button, summing left plus right channels. Technically, mono and the M or “mid” channel of an M/S matrix are the same.

The DIFF mode provides monaural soloing of the difference between the left and right channels. This is a mono subtraction of left minus right, and can also be thought of as the “side” or stereo information from an M/S matrix.

When active, MONO and DIFF solo modes display a blue light.

Friedemann Tischmeyer on How To Use Your 2BusControl

Why, when and how do I take advantage of this plug-in in mixing? Well, reading this will let you get the most out of your copy of 2BusControl...

Balance Meter

Insert the 2BusControl onto the 2Bus, also known as the Master Bus or Stereo Out track as the last instance. When your mix is already set up to your liking, you can check all center-focused instruments to see if they really do sit in the center. This will yield a mix with a good left/right loudness balance. Simply solo the bass, kick, snare, and lead vocal tracks individually, and verify that the green center LED is right in the center and brightly lit. In this position, the LED will be actually a bit brighter than the small green area surrounding perfect center. It may be that weird routing, unbalanced insert tool adjustments, or inserted hardware have caused off center results as well as off center EFX returns. Correct any problems if desired.

Listening To The Whole Mix

The Balance Meter should move within the green area, $\pm 0.5\text{dB}$ loudness deviation, though sometimes it can go further to the left or right depending on the elements and events happening on the sides. However, if the Balance Meter shows constant, long term emphasis to either left or right, you may want to reconsider your panning strategy or verify if some of your center events are off center.

Especially when using an R128 Loudness Meter, which just shows one loudness value for both left and right, the Balance Meter is a great complementary support to keep an eye on your overall loudness balance.

Correlation Meter

The world is in order as long everything happens in the green area. This means that you won't get phase cancellation if your mix is played back in mono. Don't get too nervous if the meter sometimes pops toward the red zone, especially within breaks when reverb tails become more prominent. Reverb tails always have the tendency to go wild in terms of phase — it's reverb after all. But, if your mix goes constantly and strongly into the red zone, it's time to use the MONO button. Toggle between MONO and normal or STEREO modes and check the mix for things which disappear when switched into MONO. Essentially, it's not the Correlation Meter which makes the decision that you are too "red," it just reminds you to press the MONO button to check and decide based on your ears and taste, and what you consider to be acceptable losses in MONO mode. If you have too much red, indicating signals which will cancel each other out when summed to MONO, here is a simple trick: Often this situation results from stereo overhead tracks which are hard panned full left and right. Just back off the panning to 90% left and 90% right and the problem should be gone. The same is true for reverb EFX returns. Remember: "red" means that you have signals on the left which would cancel out with

signals on the right when switched to mono. By bringing left a bit closer to right and right a bit closer to left you have less cancellation potential. If this won't solve the problem, look for the problem's source by soloing through your groups so that you quickly find the source. Be aware of parallel processing tracks. This can be your complete drum kit, mic'd with multiple mics, or a doubled bass track or layered kick...basically everything and always when a similar signal takes two different paths to your 2Bus. Use the Correlation Meter in conjunction with the MONO button. In fact, the Correlation Meter and MONO button are complementary tools and should be used together. The Correlation meter informs you that something in mono may be a problem.

In modern music, especially in electronic music, producers tend to layer multiple kicks upon each other to create a super kick. Sometimes it works and sometimes it doesn't because of phase issues. You need to decide which kick is the "mother" and reference the next kick with your mother whether it sits in phase or not. Use the MONO button! Does the new kick add something good, especially in the low end, or does it take something away? If the latter, move the kick a few samples so that it actually sums nicely. Then, go on and check every kick again against your mother because one kick must be the phase reference. With phase aligned kick drums, you have a far better chance to create the infinite kick.

To be technically precise and correct with my kick advice, you must be aware of the abilities of the stereo Correlation Meter. I want to point out the difference between phase cancellation of stereo signals and mono signals: This meter is a *stereo* correlation meter, thus it shows the correlation of your *stereo* channels. A kick is mostly monaural, so you won't see any mono phase cancellations on the *stereo correlation meter* because one mono kick could possibly cancel out another mono kick. Such cancellation happens equally on both left and right channels, so the correlation meter can't "see it." You simply need to use your ears by hearing where the kick sums in the best way, which is where you hear the most bass.

Also, be aware that the stereo correlation metering is energy based. As an example, when you have a lot of in-phase LF signals and an out of phase vocal in the higher mids, there is a good chance that the stereo correlation meter won't move far towards red. This is where you should use the MONO button and your ears to hear if the vocals lose energy in the high mids with MONO on.

LF & Vinyl

In general, it is recommended to be more cautious with low frequency phase problems than with high frequency phase problems as the chance of *mono* cancellation is higher due to longer LF (low frequency) wavelengths. If you expect to be pressing vinyl, you should take phase issues seriously as phase cancellations below 400 Hz will force your cutting engineer to mono out low frequencies, changing your mix. When the vinyl cutter folds your phase-troubled bass into mono, you have a high risk of ending up with weak bass, so be proactive.

Stereo widening tools are also the natural enemy of the green zone. Those tools simply work by messing with phase. Once again, don't leave the decision to a Phase Meter, just be inspired to use the MONO button and make decisions based on your choice.

L-R Flip Button

It's just nice to have it at hand! I tend to mix everything from the audience prospective. Unless I know that I have to deal with a left hand drummer, I always have the hi hat on the right side. This is the fastest way to get there.

Left & Right Buttons

Why the heck should you use them? Well, most of the time both loudspeakers are not 100% matched and highly likely neither are your ears. Having the possibility of swapping Left to your phantom center, and comparing it with Right swapped to your phantom center makes it easier to figure out if you have problems on either channel. Let's say the ride cymbal on the left channel has an awful sine frequency at 14 k, while the right channel is fine. You instantly know that you just need to get rid of the problem on the left channel without harming the right one.

MONO & DIFF Buttons

As I mentioned before (haven't I?), MONO is the same as Mid or Sum. Basically it's left summed with right, or left plus right. Besides using MONO mode for identifying potential phase issues, you can also use it to figure out the "properties" of the MONO signal opposed to the "properties" of your DIFF(ERENCE) or Side signal. Sometimes you can support the lead vocals with the use of an M/S EQ by just altering the M portion of the EQ. You may find harsh cymbals on the DIFF channel, which informs you that you might want to apply multi-band compression on the DIFF signal by the use of a proper M/S multi-band dynamics processor. The DIFF signal can also reveal potential to give the mix more warmth or to control the bass area. You usually don't want to have too much low frequency information on this signal portion, so that you would roll off the bass.

M/S tools have become very popular over the years, but you often miss the possibility of monitoring your M and S, or MONO and DIFFERENCE signals, in the phantom center. I found it quite annoying to set up M/S tools when just being able to hear MONO on the left speaker and DIFF on the right one. With 2BusControl, you have this option always at hand.

⚠️ WARNING!

Please consider *switching off the SOLO buttons* before closing the user interface! Since the tool will continue to work in one of the solo modes, this will really mess with your monitoring!

About This Manual

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