bx_console AMEK 9099

bx_console AMEK 9099 is part of the growing line of Brainworx TMT console emulation plugins.

More details on our patented TMT (Tolerance Modeling Technology) inside this manual.

Developed by Brainworx Audio and distributed by Plugin Alliance

BRAINWORX   PLUGIN ALLIANCE   AMEK

Introduction

Brainworx´s most extensive TMT Console Emulation based on the legendary AMEK 9098i Master Console designed by Rupert Neve.

Released at the turn of the millennium with the slogan "Artistry in Analogue", the Rupert Neve-Designed 9098i Master Console was one of the highest achievements in analog console design. Today, it becomes Brainworx most fully-featured console emulation plugin with the release of the bx_console Amek 9099.

Musical EQs with comprehensive dynamic control

The AMEK 9099 has the kind of EQ you'd expect from a Rupert Neve design, with wide, musical curves, capable of tightening up enough to give you the precision you need without ever sounding "bad". The dynamics section goes even further than the norm, with a fully variable expander, gate, compressor, and limiter, complete with extremely flexible Sidechain capabilities.

Unique features not found in other consoles

The original AMEK 9098i was dotted with features not commonly found in analog consoles of its day. The EQ shelves feature a "Sheen" and "Glow" mode for even smoother boosts and cuts, while the parametric bands include a "Notch" mode for even more precise cuts. A unique "Ambience" switch in the dynamics section lets you easily hear exactly what your compressor is doing. And, the onboard EQ can operate as a fully parametric dynamics Sidechain Filter for even more precise control of your compressor and limiter.

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More features than any other bx_console plugin

The engineers at Brainworx improved on a good thing by adding parameters not found on the original hardware. They added on a special "Clip" function in the limiter for super fast and smooth soft clipping and created a new fully-functional expander/gate with its own Sidechain Filter, reminiscent of the classic gates from the 90´. And, for the first time ever in a bx_console plugin, there's even an onboard Mono Maker, Stereo Width and Auto Listen control.

Tolerance Modeling Technology (TMT, US Patent No. 10,725,727)

simulates channel-to-channel variances in electronic components for the most realistic analog sound.

The plugin version of this legendary piece of gear, continues the tradition started with the first console emulation bx_console N in that it offers 72 channels based on "Tolerance Modeling Technology". Every one of bx_console AMEK 9099's 72 channels offers a different channel by modeling the slight channel-to-channel variances amongst the analog components. Run a different channel across your entire mix and you can easily get the depth, width and punch that the original Studio Console provided —– all inside your DAW!

Most channel strip plugins on the market emulate a single channel of the desk that they are modeled from. So no matter how many instances of that single channel plugin you use in your mix, you get the same exact equalization and compression curves, along with identical frequency and phase response. And even if you use different control settings for each plugin on a track, you still end up with a flat, narrow and two-dimensional digital sound.

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❶ HPF On

Switches the High-Pass Filter On or Off.

❷ LPF On

Switches the Low-Pass Filter On or Off.

❸ HPF x 3 (Plugin-Only Feature)

Shifts the center frequency of the HPF band by a factor of 3. This is a plugin-only addition and is not present in the original console.

❹ LPF / 3

Shifts the frequency of the LPF by a factor of 1/3. This is a plugin-only addition and is not present in the original console.

❺ HPF

The High-Pass Filter operates over a frequency range of 20Hz to 300Hz or 60Hz to 900Hz with a slope of 18dB/octave allowing the removal of unwanted low frequency.

❻ LPF

The Low-Pass Filter operates over a frequency range of 4.5kHz to 30kHz or 1.5kHz to 10kHz with a slope of 18dB/octave. The extended range allows the filter to remove unwanted harshness and sizzle.

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❶ Filter Routing

Routes filters to right after input section, into the dynamics side-chain or post comp/gate.

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❶ Gate In

Switches Gate On or Off.

❷ Gate Expander

Switches to Expander Mode which will attenuate the signal with a variable ratio when falling below the threshold with an over easy characteristic.

❸ Gate Invert

When activating the inverse mode, you hear the parts of the signal that would otherwise be attenuated by the gate, and vice versa.

❹ Gate Threshold

Sets the threshold level below which the gate/expander attenuates the signal.

❺ Gate Threshold Range

Shifts the threshold range by -30 dB for low level signals

❻ Gate Range

Controls the depth of Gating or Expansion. When turned fully anti-clockwise (Range = 0), this section is inactive.

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1 **Gate Expand**

Switch between Gate and Expander Mode.

2 **Expander Ratio / Gate Hold**

In Expander mode - Expander Ratio

This controls the ratio by which the signal is attenuated when it is below the threshold, while the range knob still limits the maximal attenuation.

In Gate mode - Gate Hold

The control determines the time after the signal has decayed below the threshold before the gate closes.

3 **Gate Release**

Controls the speed at which the Gate/Expander reduces the signal level once it has passed below the threshold

4 **Gate Release Linear**

This option offers an alternative release curve shape with a linear course in terms of dB throughout the whole gain reduction range, whereas the default mode has a more exponential curve, meaning the level decreases faster at the beginning of a release event and slows down towards the maximum gain reduction defined by range.

5 **Gate Attack**

Switches between three different settings for the gate Attack. While medium is the universal setting, fast is designed to maintain the fast transients of material such as drums, while the slow setting is specifi-cally designed to cut off transients for smooth fade-ins.

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❶ Gate Key Listen

Lets you listen to the signal at the gate sidechain input which will trigger the gate. This can be an external sidechain signal or the original channel signal, and you will hear the effect of the Gate LPF and HPF filtering. If EQ or Filters are routed to the sidechain, you will also hear the effect of those.

❷ Gate HPF

Activates additional HPF in the gate sidechain and controls the Cutoff Frequency.

❸ Gate HPF Q

Switches the Gate HPF to a high Q factor in order to pronounce the frequencies right above the cutoff frequency.
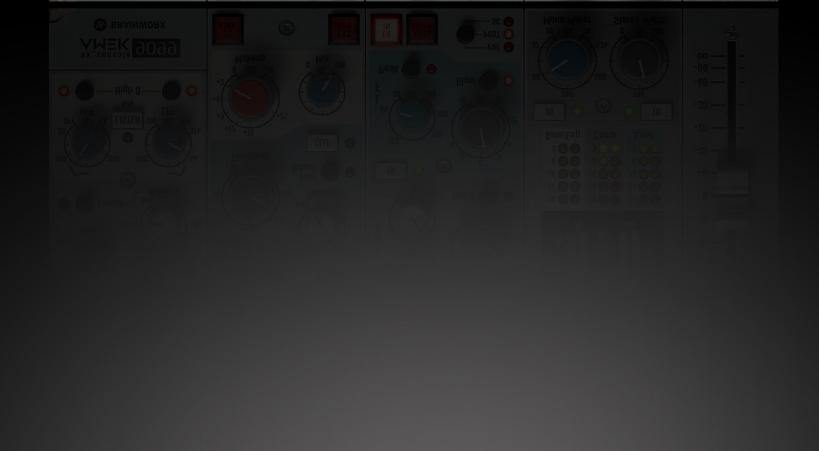
❹ Gate LPF

Activates additional LPF in the gate sidechain and controls the Cutoff Frequency.

❺ Gate LPF Q

Switches the Gate LPF to a high Q factor in order to pronounce the frequencies right below the cutoff frequency.

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Compressor Section

1 Comp in

Switches Compressor On or Off.

2 Threshold

Adjusts the level setting at which gain reduction begins to occur.

3 Ratio

Sets the ratio at which the signal above a given threshold is compressed.

4 Hard Knee

Selects a different shape to the compression curve. When not selected, compression begins gradually as the signal exceeds the threshold. It only reaches the set ratio several dB above the threshold. Selecting Hard Knee makes the change less gradual.

5 Release

Controls the time the signal needs to recover from compression when the level falls below the threshold.

6 Auto-Release

Switches in automatic Release mode instead of the manual release pot.

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❶ Attack

Determines how quickly compression is applied once the level of the source signal has risen above the threshold.

❷ Makeup Gain

Controls the gain added post-compression to make up for attenuation.
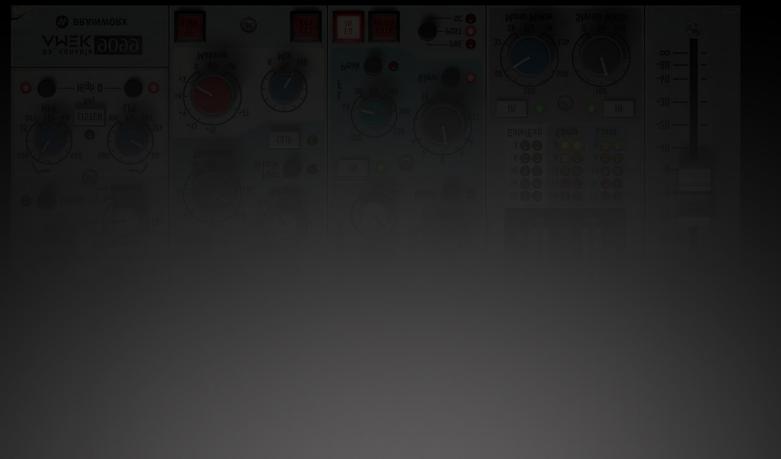
❸ Ambience (AMBNC)

When ambience is selected, the output signal is neither the compressed/ limited signal nor the input signal, it is the difference between them. If controls are adjusted so that no gain reduction takes place, the input and the output signals are identical with the difference between them being zero. With „ambience" selected, the output will also be zero i.e. silence. Note that under some conditions, the phase of the signal passing through will be altered. For ambience mode to have any effect, the signal must undergo gain reduction, therefore all the compressor/limiter controls influence the ambience effect.

Note that, differing from the hardware, in the plugin the limiter section does not have any influence on the ambience mode, it only acts on the compressor. Also the compressor makeup Gain will not be included in the difference signal, but is applied after the ambience effect in order to have intuitive control over the volume also when this effect is used.

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❶ Comp Mix (Plugin-Only Feature)
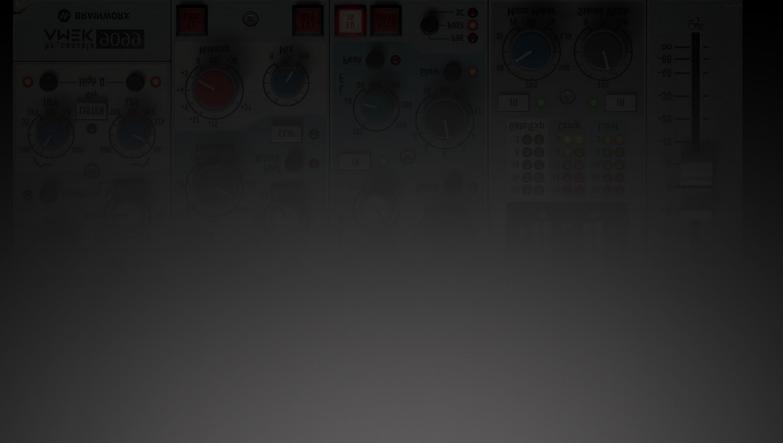
The Compressor Mix lets you blend between the compressed (all compressor section processing, including makeup gain and ambience) and uncompressed signal, for parallel compression.

❷ Comp HP (Plugin-Only Feature)

The Compressor High-Pass adjusts the cutoff frequency of an additional Highpass filter at the start of the compressor sidechain.

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❶ Limiter In

Switches Compressor On or Off.

❷ Limiter Threshold

Sets the threshold level at which gain reduction begins to occur.

❸ Limiter Makeup Gain (Plugin-Only Feature)

Controls gain added post-limiting to make up for attenuation or to push the output signal.

❹ Limiter Release

Controls the time the signal needs to recover from limiting when the level falls below the Threshold.

❺ Limiter Fast Attack

Selecting „fast" allows even short term transients to cause gain reduction.

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❶ Limiter Clip (Plugin-Only Feature)

Lets you clip off very fast transients (using ultra fast attack and release times), while effectively bypassing the release time setting. With transient loaded signals like drums, this can work great to reduce peaks while leaving the overall signal intact, and can act more subtle than normal limiting. However, on other sources this can introduce obvious distortion, which can of course still be used creatively. The Fast Attack Mode makes the clipping of the transients even harsher.

❷ Limiter Mix (Plugin-Only Feature)

Lets you blend between the limited (all limiter section processing, including makeup gain) and unaffected signal.

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❶ Ext Key

Selects external key signal to be used in the comp/gate . You can route an External Sidechain signal to the plugin Dynamics if your DAW supports this. When engaged, the Compressor / Gate will react to the External Signal instead of the input signal of the plugin.

❷ Link

Links two stereo channels, so that the same gain reduction is applied on both channels for each of the compressor, gate and limiter sections.

For Compressor and Limiter, gain reduction is maximized over both channels, while for the gate it is minimized, meaning that it is possible that the signal on one channel opens the gate on both.

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EQ

❶ HF In

Switches Band On or Off.

❷ HF Gain

Controls the gain of the HF band with a variable cut/boost range of +/- 18dB.

❸ HF Frequency

Controls the frequency of the HF band at a frequency range of 2kHz to 21kHz.

❹ HF Peak

Switches in a peak filter instead of a shelving filter for the HF Band.

❺ HF Sheen

Switches to a wider Bandwidth characteristic for the HF shelf or peak filter that alter the curve from the standard steep to more broad, gentle slopes.

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❶ HMF In

Switches Band On or Off.

❷ HMF Gain

Controls the gain of the HMF band with a variable cut/boost range of +/- 18dB. If the Mid Band is in Notch Mode the cut range is -19dB to 0.

❸ HMF Frequency

Controls the frequency of the HMF band at a frequency range of 500Hz to 4.5kHz or 1kHz to 9.5kHz.

❹ HMF x 2 (Plugin-Only Feature)

Shifts the center frequency of the HMF band by a factor of 2. This is a plugin-only addition and is not present in the original console.

❺ HMF Q

The Q control defines the bandwidth over which the HMF control is active. The Q range is 0.65 to 2 providing gentle enhancement using a low setting to a hard resonant sound using a high setting. The higher settings generate a narrow and sharper response curve.

❻ HMF Notch

Switches from Peak to Notch filter.

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❶ LMF In

Switches Band On or Off.

❷ LMF Gain

Controls the gain of the LMF band with a variable cut/boost range of +/- 18dB. If the LMF Band is in Notch Mode the cut range is -19dB to 0.

❸ LMF Frequency

Controls the frequency of the LMF band at a frequency range of 100Hz to 1.0kHz or 50kHz to 500kHz.

❹ LMF / 2

Shifts the center frequency of the LMF band by a factor of 1/2. This is a plugin-only addition and is not present in the original console.

❺ LMF Q

Controls the quality factor of the LMF band.
The Q control defines the bandwidth over which the LMF control is active. The Q range is 0.65 to 2 providing gentle enhancement using a low setting to a hard resonant sound using a high setting. The higher settings generate a narrow and sharper response curve.
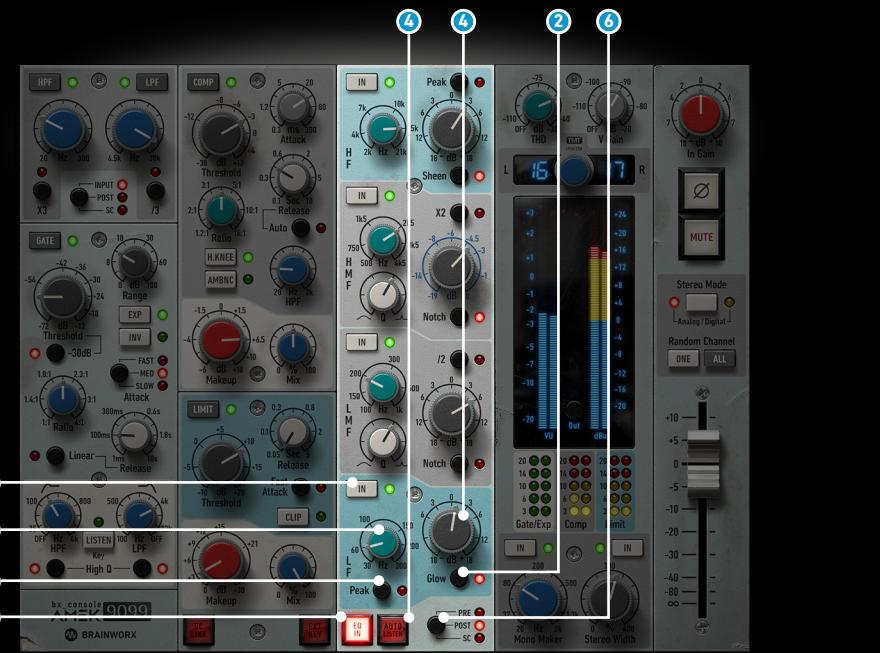
❻ LMF Notch

Switches from Peak to Notch filter.

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❶ LF In

Switches Band On or Off.

❶ LF Gain

Controls the gain of the LF band with a variable cut/boost range of +/- 18dB.

❻ LF Frequency

Controls the frequency of the LF band at a frequency range of 30Hz to 300Hz.

❹ LF Peak

Switches to a Peak filter instead of a shelving filter for the LF Band.

❺ LF Glow

Switches to a wider Bandwidth characteristic for the LF shelf or peak filter that alter the curve from the standard steep to more broad, gentle slopes.

❻ Auto Listen

When Auto Listen is activated, when changing the frequency or Q of one of the EQ Bands, only the affected Frequencies are solo'ed, bypassing all other sections, while the mouse is clicked and moved.

❶ EQ in

Switches the entire EQ section On or Off.

❶ EQ Routing

Routes the EQ section either pre comp/gate, post comp/gate, or into the sidechain of the Comp/Gate section .

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THD Tip:

Some heavier THD settings can make drums, guitars and vocals sound much rougher, which can add a certain vibe that is desirable for many styles of music. I loooove screaming consoles...

❶ Input Gain

Adjusts the input level of the plugin

❷ V Gain - Virtual Gain

Adds noise that is artificially created

❸ THD

Adds colorful Saturation and Density (on a per channel basis). The default setting is - 75dB. Use higher settings (up to -30 dB) for almost screaming distortion or dial down the Saturation to -120 dB for ultra-clean channels.

❹ Console Channel Numbers L&R (TMT Section)

Switches between 72 different Console Channels. In a Stereo instance, two adjacent Channel numbers will be displayed. Each channel has its own, different character! This is achieved by including about 150 resistor and capacitor tolerances in the modeling which correspond to the real-world component tolerance ranges, as specified by the component manufacturers and / or the hardware designers. Tolerance Modeling Technology (TMT, US Patent No. 10,725,727) simulates channel-to-channel variances in electronic components for the most realistic analog sound: a true Brainworx invention.

❺ Phase

Inverts the polarity of the signal.

❻ Mute

Mutes the signal output.

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6 Stereo Mode

Analog: 2 differently modelled TMT channels

Digital: the same TMT channel used for both channels

This button is only available On stereo instances, and is the crux of brainworx´s Tolerance Modelling Technology (TMT) feature. When ANALOG is activated, small inherent differences between the modeled componentry in each left and right channel will produce a pleasing, analog sound, as though one were working between two adjacent channels on an actual console. With the button switched to DIGITAL, the two stereo channels will be identical in circuitry, providing a theoretically perfect, digital sound.

6 Random Channel

Whenever you instantiate a bx_console plugin on a channel, it will start with the Default setup, which is Channel 1 in a flat setting.

You can now randomize a channel by clicking one of the RANDOM options in the plugin.

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❶ Random ONE

The very plugin instance you see on screen and click on will switch to any unused channel number in that session randomly. The plugin will remember which channel numbers are already used in a session and use an unused channel number, unless you are using more than 72 channels. At that point the plugin obviously would have to use a channel number that has already been used.

❷ Random ALL

If you have many channels of bx_console running in your mix session, you can make sure to be using different channel numbers for every single instance with a single mouse click now! In most hosts you can add a copy of the same plugin to every channel with a keyboard shortcut (for example click ALT on a Mac to put a bx_console plugin on every channel of your Mac ProTools version automatically!).

Imagine opening 48 channels with one click and then randomizing all the channel numbers with a second mouse click. Done.

This is possible now.

❸ Meter Position

Switches between metering of input and output signals

❹ Output Gain

Adjusts the output level of the plugin.

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Dirk's Tip:

One very cool way of using the RANDOM ALL feature is to finalize a mix and bounce it, then save the whole mix session. Now you can play back the song and click RANDOM ALL a few times on any instance of bx_console, and you will notice that the "timbre" or tone of your mix will change ever so slightly, depending on the use or abuse of the individual EQs and Dynamics, of course. The more processing you apply, the more obvious the differences become.

Now by clicking through different randomized channel combinations, you may actually find one that sounds a bit darker or brighter, a bit punchier or smoother than your original mix. Why not save 1 or 2 alternative mix sessions and bounce them, so your client can choose between 2 or 3 different "flavors" of the otherwise identical mix?

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❶ Mono Maker In

Switches the Mono Maker On or Off

❷ Mono Maker Frequency

This tool is a critical component to several Brainworx processors, and it is an invaluable tool when mastering or tightening up a mix. Sweepable from 20 Hz to 22 kHz, this parameter folds the processed sound to mono at and below the frequency set. The most common setting is between 100–200 Hz, below which bass frequencies reside, where common practice deems that most sound should be mono. Other uses include folding an entire mix in order to check mono compatibility and avoid phase incoherency.

❸ Stereo Width In

Switches the stereo width On or Off.

❹ Stereo Width

Make your mix wider than it originally was by increasing the Stereo Width without losing the center of your recordings! You will not lose bass drum power or vocals by making your mix wider this way... and it will not sound different played back in mono at all. If you notice your Correlation Meter (e.g. bx_meter) showing less than 90°, dial up the Mono Maker a bit to tighten up the low-end until acceptable levels are shown.

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❶ Overload

Overload Indicator.

❷ PPM - Quasi Peak Programme Meter

The PPM Meter is referenced per default to 0dBu = -20 dBFS, while this can be adjusted by the user as a global preference for all sessions and instances, using the corresponding textedit in the Splashscreen. The default value can be restored by clicking the default button.

❸ VU

The VU Meter is referenced per default to 0 VU = -10 dBFS (= +10dBu in default), while this can be adjusted by the user as a global preference for all sessions and instances, using the corresponding textedit in the Splashscreen. The default value can be restored by clicking the default button.

❹ Compressor Gain Reduction

This meter shows the gain reduction of the compressor section (leaving out the influences of makeup gain and mix controls).

❺ Limiter Gain Reduction
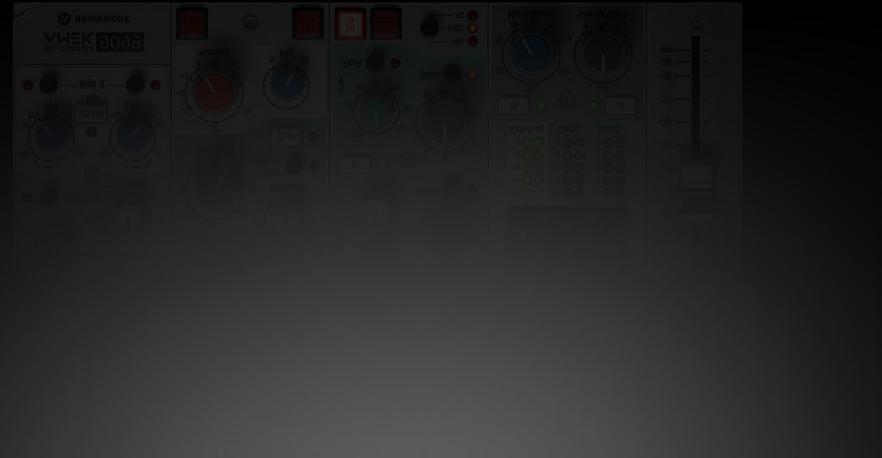
This meter shows the gain reduction of the limiter section (leaving out the influences of makeup gain and mix controls).

❻ Gate / Expansion Gain Reduction

This meter shows the gain reduction of the Gate/Expander.

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❶ Meter Calibration

The reference value for both level meters can be adjusted via the corresponding text fields in the info screen, which can be accessed by clicking on the Brainworx / AMEK logos.

By default, the PPM meter reference is set to 0 dBu = -20 dBFS.

The VU Meter is set to 0 VU = -10 dBFS, which in turn corresponds to 0 VU = +10 dBu in the default setting. Using the text fields, you can customize the meters according to the standard you are used to work with or depending on the 'hotness' of your material. Your settings will be stored for all instances and sessions. You can always go back to the default reference levels by clicking on the default buttons.

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❶ Undo / Redo

You can undo and redo changes you made to the controls of the bx_console AMEK 9099 plugin at any time. The UNDO / REDO will work for as many as 32 steps. This makes experimenting and tweaking knobs easy. If you don't like what you did… just undo it

❷ Settings (A/B/C/D)

The bx_console AMEK 9099 plugin offers four internal settings (A/B/C/D) which will be stored with every preset. So, one preset can contain up to four settings.

You may use similar settings with more or less compression or EQ boost in one setup /preset.

Now, the SETTINGS can be automated in your DAW! This way it is possible to use different sounds for your lead vocals or drums in various sections of the song. Automate the A/B/C/D settings, and you can still tweak knobs of the individual settings without overriding multiple parameters in your DAW, which would be time-consuming.

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❶ Copy / Paste

To set up variations of similar sounds you don't have to dial in the settings several times.

Let's say you like your setting A and want to use the same sound, just with less compression, as setting B.

• Simply press COPY while you are in setting A.

• Switch to setting B by pressing 'B' in the settings section.

• Press PASTE, now setting B is identical to setting A.

• Reduce the compression on the B setting.
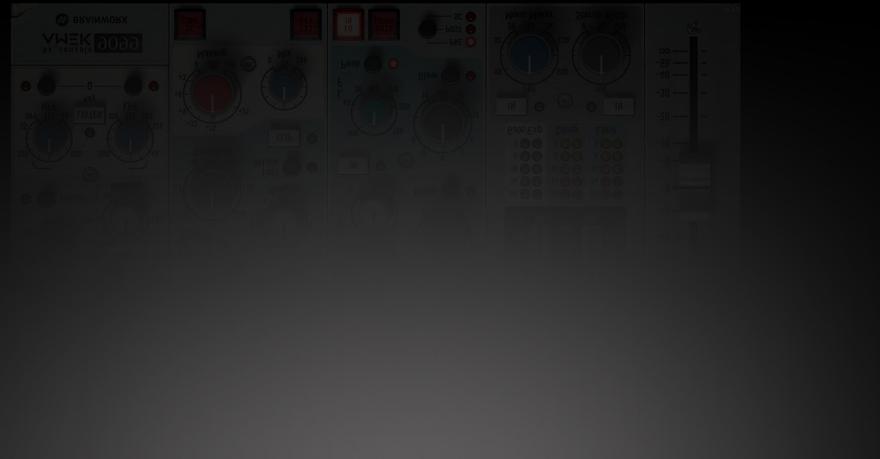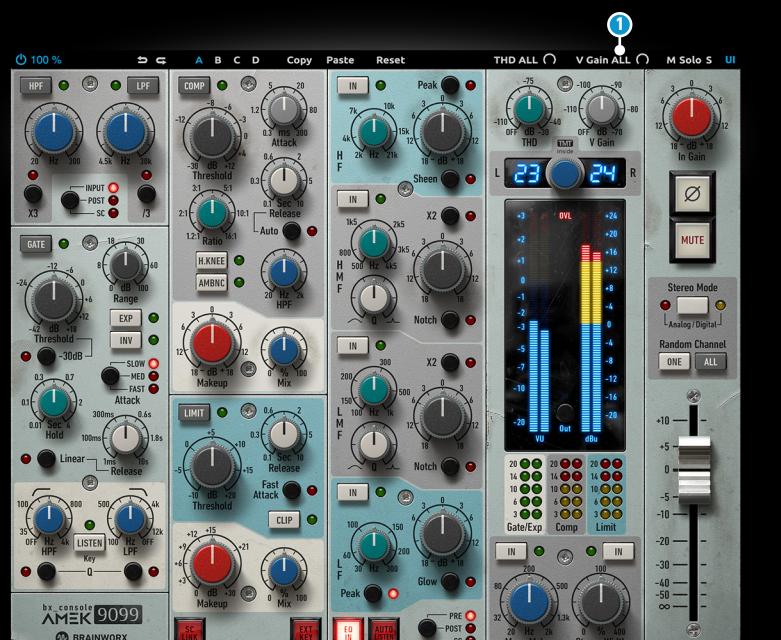
Now you can switch between A & B and decide which one sounds best or automate different settings for various sections of your session.

❷ M/S Monitoring (for Stereo Channels only)

• Solo M: Solos the Mid (Sum) signal being processed by the plugin.

• Solo S: Solos the Side (Difference) signal processed by the plugin.

• Both disengaged: Standard stereo (L/R) processing output.

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❶ V Gain ALL (-30 dB to +20 dB)

This parameter lets a user add an additional offset to the V Gain parameter of all the same console instances in his current session. Even with the offset, the original range of the V Gain parameter is never exceeded. If V Gain is explicitly set to "Off" (fully counter-clockwise), it will stay Off, even when V Gain ALL adds an offset.

Example 1

The V Gain is set to -95 dB and V Gain ALL is set to +20 dB. The effective V Gain will be -75 dB.

Example 2

The V Gain is set to -75 dB and V Gain ALL is set to +20 dB. The effective V Gain will be -70 dB. It is limited at the upper range.
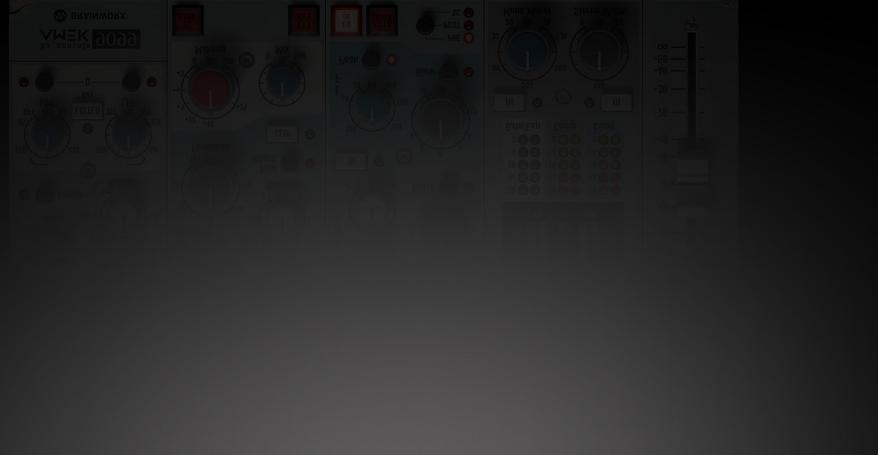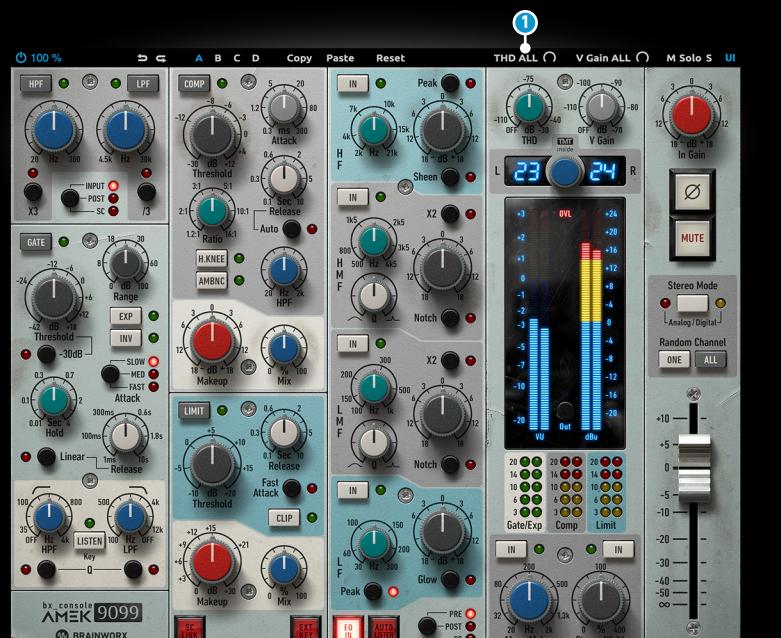
Example 3

The V Gain is set to "Off" and V Gain ALL is set to +20 dB. The effective V Gain will still be Off.

The parameter only influences consoles of the same type, e.g. if set on bx_console AMEK 9099, it will not influence bx_console SSL 4000 G and other console plugins.

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❶ THD ALL (-60 dB to + 30 dB)

This parameter lets a user add an additional offset to the THD parameter of all the same console instances in his current session. Even with the offset, the original range of the THD parameter is never exceeded. If THD is explicitly set to "Off" (fully counter-clockwise), it will stay Off, even when THD ALL adds an offset.

Example 1

The THD is set to -60 dB and THD ALL is set to +20 dB. The effective THD will be - 40 dB.

Example 2

The THD is set to -35 dB and THD ALL is set to +20 dB. The effective THD will be - 30 dB. It is limited at the upper range.
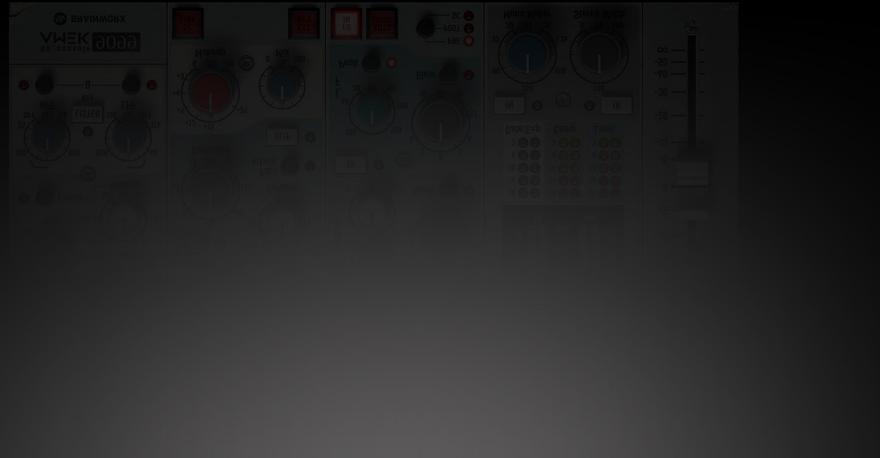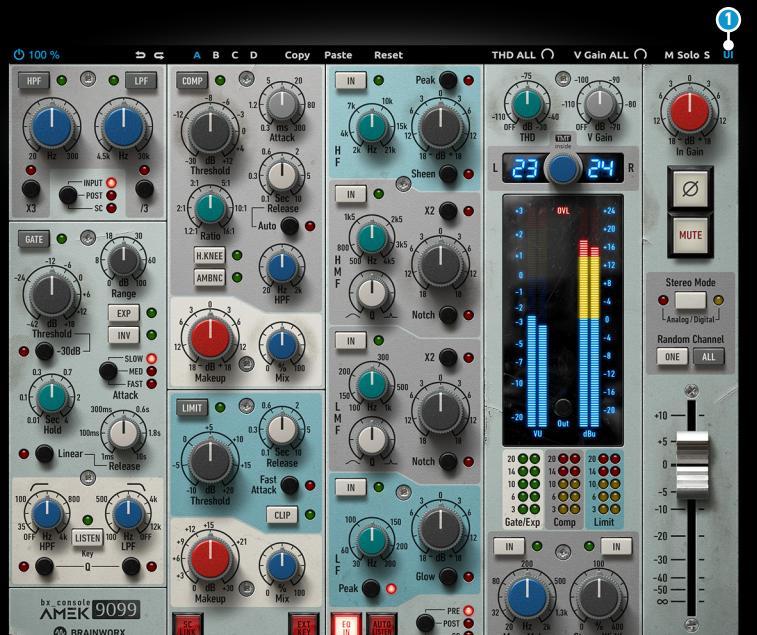
Example 3

THD is set to "Off" and THD ALL is set to +20 dB. The effective THD will still be Off.

The parameter only influences consoles of the same type, e.g. if set on bx_console AMEK 9099, it will not influence bx_console SSL 4000 G and other console plugins.

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❶ UI

Since we are in love with our products, we decided to go the extra mile in terms of detail: For a true-to-life experience, you can now switch the user-interface from a new unit to a used one (complete with finger-prints, scratched LCD and dirt). In addition, we also added a new „Dark-mode" for the user-interface. Changing these UI options does not change the sound.

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Bottom Toolbar

❶ PA Logo

Clicking the Plugin Alliance logo takes you to the Plugin Alliance website via your web browser, that´s if your computer is online.

❷ License Type

The toolbar displays information about the type of license you're running: Trial licenses will be displayed along with the number of days until expiration; there is no note for full licenses as these are unlimited.

❸ $ (Icon)

If you are using a demo / trial version of our products, you can always click this icon to open a browser that redirects you to the respective product page in the Plugin Alliance store. This is where you can easily purchase a product without having to look it up on our website.

❹ Key (Icon)

Clicking on the key icon brings up the activation dialog, allowing you to manually reauthorize a device in the event of a license upgrade or addition. You can also use this feature to activate additional computers or USB Flash Drives.

❺ ? (Icon)

Clicking the ? icon opens up a context menu that links to the product manual PDF, as well as other helpful links, e.g. to check for product updates online. You must have a PDF reader installed on your computer to be able to read the manual.

Artist Presets

Tim Gilles

Tim "Rumblefish" Gilles is a 40 year veteran Audio Engineer and former owner of Big Blue Meenie Recording Studios in Jersey City NJ. Currently Tim partners with our sister studio Big Blue North in Utica, NY and has commenced work at Big Blue South, our studio in Tasmania, Australia where he currently resides. Tim has worked with such bands as Thursday, SOD, Anthrax, The Bouncing Souls, Taking Back Sunday, Agnostic Front, Sick of it All and many others. In Tim's career he has been a Mix Engineer, Mastering Engineer, Record label owner of Black Pumpkin Records and has worked on 800+ records. Tim owned and worked on a Neve 9098i for 19 years.

Eric Racy
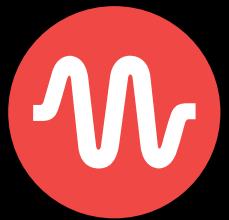
Eric Racy is a platinum selling mixer, producer, engineer and remixer with credits and clients that include Katy Perry, Pharrell, Tyga, Jonathan Davis, Akon, 2NE1, Ministry, Lil Wayne, Big Sean, Busta Rhymes, Photek and many more.

Matt Weiss

Matt Weiss is a Grammy-nominated, platinum recording and mixing engineer who's worked with artists like Akon, Swae Lee, Jeremih, Chris Brown, Sonny Digital, Nicky Minaj, Becky G, Anitta, Rick Ross, Farruko, and Ozuna.

Mike Exeter

Mike Exeter is an English sound engineer and record producer who came to prominence via his work with British rock bands Cradle of Filth, Judas Priest, Black Sabbath, and more.

He is also known for his work with the British guitar player Tony Iommi, being his longstanding creative studio partner. In 2013 he received a Grammy for his work on the Black Sabbath album 13.