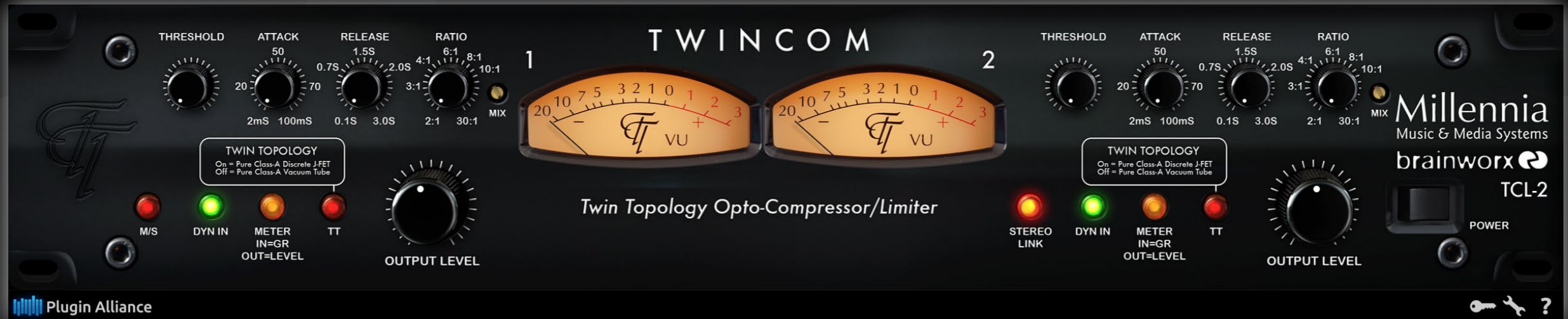


MILLENNIA TCL-2 Plugin

Twin Topology Opto-Compressor/Limiter with added M/S Mode
High Resolution. Immaculate J-FET and Class-A Tube Modeling



Thank you for using the Millennium Media TCL-2 Twincom plugin. The original TCL-2 hardware design was the result of meticulous listening tests on numerous circuit, topology, and packaging designs. The TCL-2 is a finely tuned instrument intended for critical professional applications.

We feel the hardware TCL-2 is the world's most sonically neutral analog Opto-Compressor, and we have meticulously modeled that transparency within our software.

"With the emergence of 24+ bit digital audio, recording engineers are faced with a new requirement for undistorted dynamic range. The TCL-2 meets this challenge exceptionally well." *

Twin Topology is a Millennium-exclusive design technique that combines 50V discrete solid-state amplifiers and 400V vacuum tube amplifiers in the same chassis. Tube or solid-state audio paths are selectable from a front-panel switch. This dedicated two-circuit design offers the flexibility of applying distinctly different characteristics to your processed sound.

*Adapted from the Millennium TCL-2 hardware manual

Developed under license by Brainworx GmbH Germany for Plugin Alliance LLC USA.

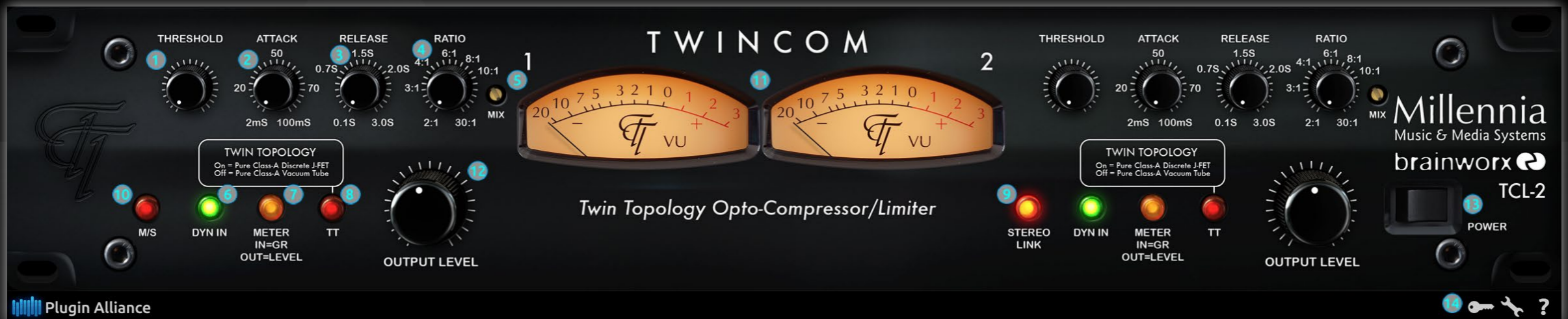
Millennia
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[1] THRESHOLD CONTROL "THRESHOLD"

Conductive plastic rotary potentiometer offering variable compression threshold. When fully Counter-Clockwise, the compression threshold is least sensitive. Threshold range is approximately -20 dB to +20 dB. Threshold is most sensitive when control is turned fully Clockwise.

[2] ATTACK CONTROL "ATTACK"

Conductive plastic rotary potentiometer offering variable attack timing. When fully Counter-Clockwise, the fastest attack is achieved (2mS). When fully Clockwise, the slowest attack is achieved (100mS).

[3] RELEASE CONTROL "RELEASE"

Conductive plastic rotary potentiometer offering variable compression release timing. When fully Counter-Clockwise, the fastest release is achieved (100mS). When fully Clockwise the slowest release is achieved (3 seconds).

[4] RATIO CONTROL "RATIO"

Conductive plastic rotary potentiometer offering variable compression ratio. When fully Counter-Clockwise, the lowest and most gentle ratio is achieved (2:1). When fully Clockwise, the highest and most pronounced ratio is achieved (30:1). A compression ratio of approximately 10:1 (or higher) is typically called "limiting."

[5] MIX TRIM "MIX"

Parameter only available in the plugin version of the TCL-2. This allows you to control the amount of original signal being blended with the processed signal, effectively providing the option of parallel compression within each channel of the TCL-2.

[6] CHANNEL IN SWITCH "DYN IN"

Pushbutton switch which selects channel status. When switch is depressed and corresponding LED is illuminated, audio signal will be processed by dynamics functions. When switch is not depressed and LED is not illuminated, audio signal is not processed by dynamics functions. This is not a "hard-wire" bypass. Audio signal is always in the active circuit path regardless of this switch's status.

[7] METER FUNCTION SELECT SWITCH "METER IN=GR/OUT=LEVEL"

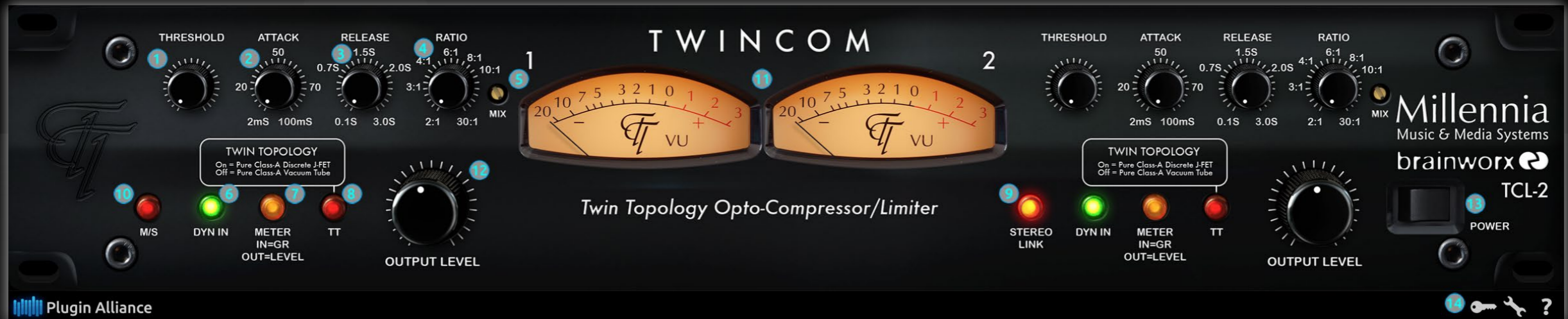
Pushbutton switch which selects meter function. When switch is depressed and corresponding LED is illuminated, meter indicates the amount of gain reduction. When switch is not depressed and LED is not illuminated, meter indicates output level (0 VU = +4 dBu).

[8] TWIN TOPOLOGY SELECT SWITCH "TT"

Pushbutton switch which selects the corresponding channel as a complete vacuum tube compressor or a complete solid state compressor. Not a gimmick. Twin Topology is designed around two world-class, musically optimized Class-A amplifiers — one amplifier is based on twin triode vacuum tubes, while the other is based upon all discrete J-FET servo amplifiers. It's like having two distinctly different compressors in one chassis. When switch is depressed and LED is illuminated, the channel is operating as a solid state compressor. When the switch is not depressed, the channel is operating as a vacuum tube compressor. Because of the TCL-2's unique shunt design, the dynamic processing chain leaves little or no detectable signal path artifact when in-circuit.

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(9) STEREO LINK SWITCH "STEREO LINK"

Pushbutton switch which selects the stereo link function. When switch is depressed and LED is illuminated, both channels will respond to the channel with the highest compression activity. When the switch is not depressed, each channel's dynamics operates independently. The sidechain controls (threshold, attack, release, ratio) remain individually adjustable and are not stereo linked. Stereo tracking can be tightened by reducing the ratio setting of the channel driving hardest.

(10) M/S SWITCH (Plugin only, available on stereo channels only)

By activating the M/S switch, the TCL-2 plugin internally splits the stereo signal into M [mid] and S [side] channels. M/S is also referred to as Sum & Difference. You can now treat the dynamic range of the M and the S channels individually, allowing for tweaks simply not possible with a standard Left / Right compressor.

You may want to try the M & S Solo Buttons of the Brainworx bx_digital EQ. Listening to M & S in solo mode will help you understand the basics of what M/S really is. The bx_digital is available from [Plugin Alliance](#).

(11) METERS

Large (and very expensive!) Sifam true audio level meters offering superb ballistics and accuracy. A custom back-lit dial face provides oversized numerals for clear readability. Backlighting also provides a pilot light function.

(12) OUTPUT GAIN CONTROL "OUTPUT GAIN"

Conductive plastic rotary potentiometer offering variable output gain level. When fully Counter-Clockwise, the output gain is fully attenuated (off). When fully Clockwise, the output gain is at maximum. Up to 10 dB of make-up gain is available when fully Clockwise.

(13) POWER SWITCH "POWER"

Rocker switch for switching AC line power on and off. This completely bypasses the plugin.

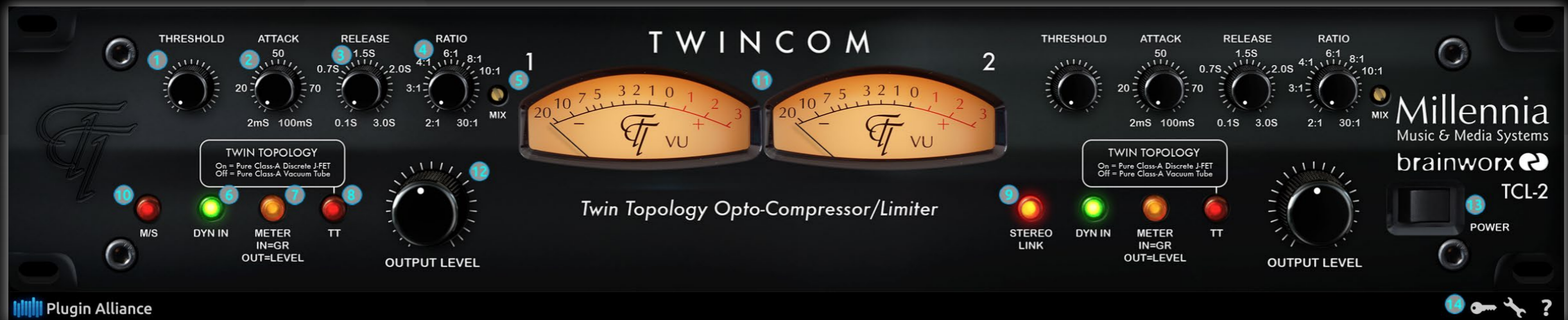
NOTE:

The TCL-2 Twincom is based on pure Class-A all vacuum tube and pure Class-A discrete all-transistor amplifier designs. Both topologies perform best after reaching a stable, warmed-up condition.

All TCL-2 factory adjustments have been performed when unit is fully warmed-up; at least one-half hour after turning unit on. During TCL-2 warm-up period, user may find that certain adjustments may drift slightly, including the 0 dB meter reading when in "GR" (Gain Reduction) mode.

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DYNAMICS PARAMETERS

Threshold Range
Attack Range
Release Range
Compression Ratio Range
Dynamics Bypass on Each Channel?
Meter Gain Reduction -or- VU Switch?
Stereo Link Switch?
Mid/Side Processing
Twin Topology Selection Switch

-20 dBu to +20 dBu, continuously adjustable
2 mS to 100 mS, continuously adjustable
100 mS to 3.0 sec, continuously adjustable
Min: 1.4 to 1, Max: 30 to 1, continuous
Yes
Yes
Yes
Yes
Switch In = FET Amplifiers
Switch Out = Vacuum Tube Amplifiers

[14] Plugin Alliance Toolbar

“KEY” ICON
Opens the plugin Activation Dialog

“WRENCH” ICON
Shows information regarding the plugin version, software specifications, and user account.

“?” ICON
Opens a dialog through which one can access the plugin’s help documentation, online product page, or any available updates.

“\$” ICON (When Applicable)
If you’ve purchased your Millennium TCL-2 using the Plugin Alliance Installment Payments option, the “\$” icon, links to your account so you can make a payment on your Lease-License

For More Information
Please Visit:
Millennnia Media Website: mil-media.com
Plugin Alliance Website: plugin-alliance.com