DANGEROUS MUSIC



COMPRESSOR®

USER GUIDE



SAFETY REVIEW



The Exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying this product

Certain precautions should be taken when using electrical products. Please observe the safety hints by reading the manual and obtaining qualified help if necessary to adhere to the precautions.



1. Always use a properly grounded power supply cord with this product. Please do not defeat the ground pin on the mains plug. This connection provides earth to the chassis and signal grounds inside the device for clean and quiet operation.



2. Avoid high temperature operation in equipment racks by providing air circulation. The number one killer of electronic gear is HEAT. Vented rack panels may look like wasted space to an interior decorator, but they look like beauty to a technician or equipment designer! If the front panel is hot, it is roasting inside the box.



3. Avoid areas of high magnetic fields. The steel chassis is designed to shield the circuits from EMI and RFI (magnetic and radio interference). When installing equipment in racks, it is prudent to put power amplifiers and large power supplies at least several rack spaces, if not in a different rack, away from equipment that deals with low level signals. Separation of high level and low level equipment can pre-empt trouble caused by heat and EMI.



4. Care should be taken to avoid liquid spills around equipment. If a spill occurs, please shut off the gear and disconnect the mains. A qualified technician should investigate accidents to prevent further equipment damage or personnel hazards caused by spills.



5. If one is uncomfortable with opening gear and changing jumpers or making adjustments, please seek qualified help if necessary.



6. If adjustments or jumper changes are required, please disconnect the mains plug before opening the top. Dropped screws or tools on a live circuit board can manifest themselves as burn marks and smoked components. While we feel your pain, (been there) subsequent damage is not covered by the warranty.

Dangerous Music Incorporated reserves the right to change the specifications or modify the designs of its equipment. Sending in the registration card is our way of keeping in touch with users of our equipment should this become necessary. Registration information is always kept confidential and never disclosed to third parties for any reason. Company contact information is on the last page of this manual.





The CE sign on this product signifies the fact that this product has been tested and verified to conform to the applicable standards of 89/336/EEC.EN55103-1 (emissions) EN61000-2 (immunity) and EN60065:2002 (safety requirements)

This product uses components of the types and quantities that comply with the EC RoHS standard 2002/95/EC. A list of suppliers and materials is available from DMI. We tightly control production to use top quality materials.

THANK YOU

Thank you for choosing products from the exciting and innovative line of Dangerous Music recording equipment. Many years of reliable service can be expected from our gear. This is made possible through careful design, construction, and component choices by recording industry veterans.

The Dangerous Music Compressor is designed to control dynamics without sacrificing timbre. There are comprehensive tips and application notes in this user's guide, so don't skip the read.

If you have any suggestions for applications or future products, feel free to forward them. We are users like you.

DANGEROUS MUSIC

ABOUT DANGEROUS MUSIC

"Audio Integrity: non-negotiable." This is the credo upon which Dangerous Music is founded. Conceived and designed by end users–not by engineers in lab coats- the results are products that resurrect dynamic range, punch, intelligibility and emotion. These high-fidelity, uncompromising signal paths are achieved by harnessing over 20 years of Chris Muth's design wizardry; creator of infamous custom black boxes for world class facilities like Hit Factory, Masterdisk, Absolute Audio and Sterling Sound Mastering. Then the critical listening skills of golden-eared luminaries are applied, with the result being musical tools that fulfill the actual needs of today's flexible computer based studio.

TABLE OF CONTENTS

Overview	1
COMPRESSOR Rear Panel Features & Benefits	1
COMPRESSOR Front Panel Features, Benefits & Connection	3
Specifications	13
Warranty	14

OVERVIEW

The DANGEROUS COMPRESSOR was designed to be simple, transparent and powerful. Built to the exacting standards of the mastering community, as with all things Dangerous, it has also proven indispensable for tracking and mixing. Tame a vocal, tighten a snare, crush a sampled loop or gently smooth a track- the COMPRESSOR will rise to the occasion, providing rapid results, intuitive feedback and without coloration. Enjoy.



Unpack this game changer and celebrate. Inside the box you'll find the Compressor, this manual and a standard 3 Pin IEC power cable (don't let your guitar player steal this for his Marshall™ head.)

Note: We recommend reading the entire manual (it's short- and so is life).

COMPRESSOR: Rear Panel Connections



[REAR PANEL INPUTS AND OUTPUTS PICTURED ABOVE]

1. INPUTS & OUTPUTS

Feature: Pro-quality XLR Connectors.

Benefit: More contact surface area for happy electrons to migrate through and no off-shore look-alike connectors that "almost" fit.

Note: All connections wired pin 2 hot as per AES standards.



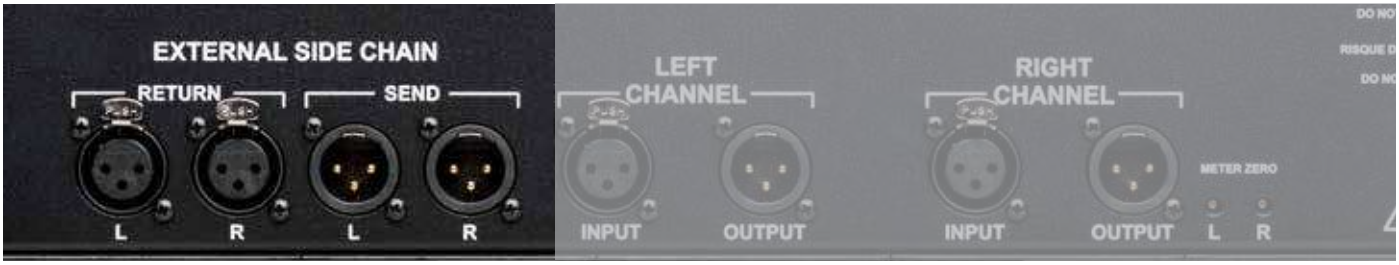
[REAR PANEL METER ZERO RECESSED TRIM PICTURED ABOVE]

2. METER ZERO RECESSED TRIM

Feature: Readjust your meters to zero in the unlikely case of drift.

Benefit: Always have dead-on accurate metering.

Operation: Perform this operation only when the unit has warmed up a minimum of 2 hours. Activate the VU/COMP button (red) in order to view GAIN REDUCTION. Make certain no audio is present. Turn screwdriver in appropriate meter (left or right) until perfectly in line with zero.



[EXTERNAL SIDECHAIN SEND AND RETURN PICTURED ABOVE]

3. EXTERNAL SIDECHAIN

Feature: Connect an external equalizer here. Either parametric or graphic will suffice, though parametric provides finer control.

Benefit: Boost or cut any frequency, to make the Compressor more or less sensitive to that audio range.

Example: See the "Sidechain" controls section.

Tip: Cables DO make a difference. Ask for Mogami 2534 interconnects.

Tip: To use in unbalanced mode, take your high quality Mogami cable and tie pin 3 to 1 on the XLRs



[REAR PANEL POWER SECTION PICTURED ABOVE]

4. A/C CABLE & SWITCHING

Feature: Three pin IEC cable.

Benefit: Simple to replace if lost.

Feature: Selectable voltage.

Benefit: Travel with your audio tools anywhere in the world while compressing / limiting judiciously, artfully and with integrity.

Operation: Please review the mains voltage in the red window before plugging in the unit or electrifying events may transpire. To modify the voltage, use a screwdriver to gently pry the mains inlet module's cover open and flip the fuse block around so the correct voltage appears in the window.

Tip: ✌ The power switch is on the inlet module. Seat the AC cable completely and use properly grounded power mains for safe and quiet operation.

Tip: ✌ If the COMPRESSOR will not power on and the outlet has proved to be working (plug in a lamp?), check the fuses under the inlet module's cover. Use 500 milliamp fast blow for 120V (America) and 250 milliamp fast blow for 240V (Europe).

COMPRESSOR: Front Panel Features & Benefits

1. ENGAGE IN & OUT



[JEAN LUC PICARD "ENGAGE" BUTTON PICTURED ABOVE]

Feature: Hard wire bypass ENGAGE SWITCH.

Benefit: Allows true A/B comparisons by completely removing the hardware from the circuit while in bypass. In other words, many units always send your audio through the circuitry even when in "bypass," thus compromising the sound

quality. Therefore, you cannot compare the “before” and “after” honestly. “Hard wire” effectively removes the unit from the signal path.

Tip: To test any unit (even a guitar pedal) for “true hard wire bypass” design, place it in bypass and disconnect the power (AC or battery). If the unit still passes audio, it’s a true hard wire bypass circuit.

Trivia: Known in the inner circles as a “sober switch”.

2. SIDECHAIN BUTTONS (a Quadrilogy)



[SIDECHAIN BUTTONS PICTURED ABOVE]

INTRO

A sidechain circuit provides what the GAIN REDUCTION element in a compressor “hears.” When cleverly designed it allows the COMPRESSOR to become more or less sensitive to a specific frequency or group of frequencies. In other words, let’s say you’re committing a mix. The final feels like it needs more GAIN REDUCTION (i.e. compression/limiting), but when engaged, every time the kick drum sounds, the entire mix drops in level. By reducing the compressor’s sensitivity to low frequency content (i.e. BASS!), it will allow the kick drum to strike, without over-triggering the COMPRESSOR.

BASS CUT

Feature: Reduces sensitivity to low frequency energy. (i.e. the COMPRESSOR won’t react as much to bass).

Benefit: Keeps the compressor from “dunking” with loud bass or kick drum levels. (i.e. more bass, while controlling the rest)

Technical: BASS CUT introduces a 6dB per octave filter, 3dB down at 60Hz.

SIBILANCE BOOST

Feature: Increases sensitivity to high frequency energy. (i.e. the COMPRESSOR will react more to the top end).

Benefit: Tame the harshness without resorting to EQ changes.

English: Control sibilance by reducing "s's" from a singer or gently tame the harshness from cymbals recorded with cheap Chinese condenser mics or poorly re-sampled loops.

Technical: SIBILANCE BOOST kicks in a Baxandall shelving EQ with 2dB of boost at 5kHz.

EXTERNAL SIDECHAIN

Feature: When EXTERNAL SIDECHAIN is engaged, this allows connectivity with an external equalizer (i.e. plug in that graphic or parametric equalizer you had junked in the attic).

Benefit: By employing an outboard eq, you are able to increase or decrease sensitivity to specific frequencies.

Example: The snare drum has a vicious ring that is "no bueno". When it hits the limiter it proves even more villainous. Connect the parametric eq your bass player left you when he stole your girlfriend and engage the external sidechain. Then boost the level and sweep the frequencies until you hear it grabbing the offending ring.

Tip: When EXTERNAL SIDECHAIN is engaged, the audiophile electronics of the Compressor's sidechain circuit are still available. In other words, you can use your external hardware and the BASS CUT AND/OR SIBILANCE BOOST simultaneously- that's powerful.

SIDECHAIN MONITOR

Feature: Hear only what the sidechain hears.

Benefit: Target exactly the audio perpetrator. In other words, go after the problem and leave the rest of the audio unscathed.

Example: To find and dispatch an offensive snare drum ring that the tracking engineer was too stoned to address while recording, connect your external equalizer, engage the SIDECHAIN MONITOR button, boost the eq's level and start sweeping frequencies until you hear it caught in the cross hairs. (In other words, offensively isolated.) Disengage SIDECHAIN MONITOR and now toggle between before and after with the ENGAGE button. The more you boost that frequency,the more Compressor will duck it when it rear's its ugly head.

3. CONTOUR BUTTONS



[CONTOUR BUTTONS PICTURED ABOVE]

SMART DYNAMICS

Feature: SMART DYN employs two independent slopes in the detection circuit.

Benefit: One section of the detector controls the average level. The other handles only rapid transients. Normally a spike would shove down the entire track, creating an audible faux pas moment. Instead, the normal slope portion handles the smoothing of the entire content and the other deals with the spikes. This results in a higher average level relative to peak, without the stereo image collapsing. Dangerously brilliant.

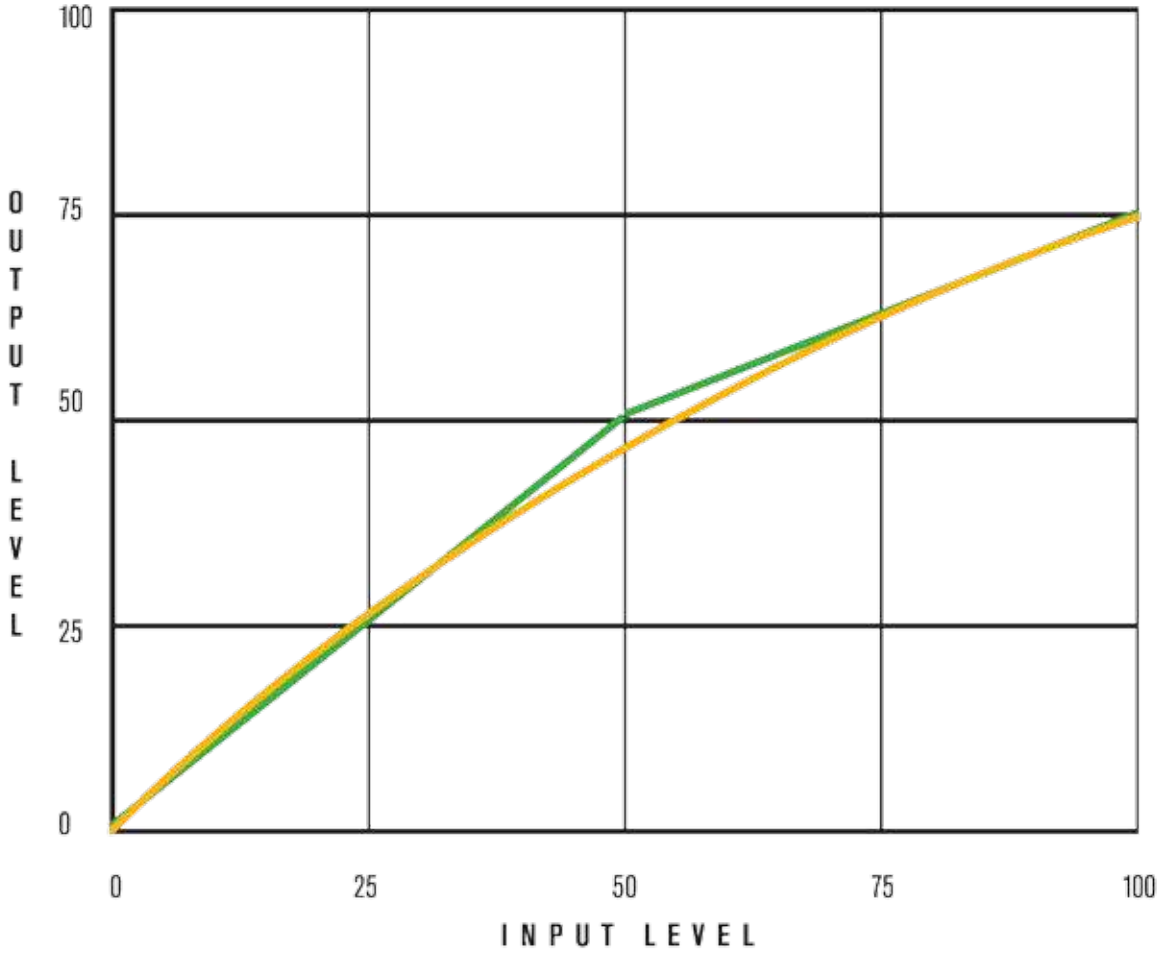
Tip: Most end users leave this option selected when working on program material (a mix or a master.)

SOFT KNEE

Feature: SOFT KNEE creates a gentler triggering of the VCA.

Benefit: When the threshold is crossed and GAIN REDUCTION is activated, instead of an aggressive transition, SOFT KNEE allows a gentler, less audible transition.

Example: HARD KNEE is a favorite on slapped bass guitar, where SOFT KNEE is almost always selected for vocals.



[HARD KNEE (GREEN) AND SOFT KNEE (ORANGE) GRAPH PICTURED ABOVE]

MANUAL ATTACK / RELEASE

Feature: By default, the unit is set to AUTO ATTACK / RELEASE mode. Engaging this button will override the AUTO ATTACK / RELEASE.

Benefit: The AUTO ATTACK / RELEASE has a preset timing of approximately 30 milliseconds for both. Engaging the button will allow the use of the attack and release knobs. The green LED between the knobs will also light, reminding you that they are activated.

Tip: Have a pesky backseat producer riding you like a hobby horse? Place the COMPRESSOR in AUTO ATTACK / RELEASE and allow them to make the manual and completely ineffective adjustments to their heart's content.

4. METER BUTTONS



[METER BUTTONS PICTURED ABOVE]

VU/COMP BUTTON

Feature: Toggle between VU and Gain Reduction to view their respective activity on the meters.

Benefit: Receive visual confirmation of how much INPUT LEVEL or OUTPUT LEVEL (dim red) or GAIN REDUCTION (bright red) is taking place. This provides feedback for not only the amount of GAIN REDUCTION taking place, but also the speed of change (see ATTACK / RELEASE section further ahead).

Operation: With the VU/COMP button engaged (bright red), the meters will display the amount of GAIN REDUCTION.

With the button disengaged (dim red), the meters will display either INPUT LEVEL or OUTPUT LEVEL depending on the status of the METER BUTTON. (See METER BUTTON section below).

METER INPUT/OUTPUT BUTTON

Feature: Toggle between INPUT LEVEL (dim red) and OUTPUT LEVEL (bright red) to view their respective activity on the meters.

Benefit: Receive visual confirmation of INPUT or OUTPUT level.

Operation: With the VU/COMP button disengaged (dim red), toggle between INPUT LEVEL or OUTPUT LEVEL.

Tip: METER BUTTON not working? Don't panic. With the VU/COMP button engaged (red), the meters will only display the amount of GAIN REDUCTION, thereby rendering the METER BUTTON inactive. Disengage the VU/COMP button (unlit).

-6VU BUTTON

Feature: Reduce the signal present at the meters by -6VU.

Benefit: When the levels are hot, pinning the meter can damage it.

Note: Does not affect GAIN REDUCTION meter ballistics, just sensitivity (don't blush).

5. STEREO BUTTON



[STEREO METER BUTTON PICTURED ABOVE]

Feature: The COMPRESSOR may be operated in either DUAL MONO mode (button dim) or STEREO mode (button bright). DUAL MONO has two completely independent paths; for example, kick drum in one channel and snare in the other. STEREO mode may be applied to stereo instruments, stems or complete mixes.

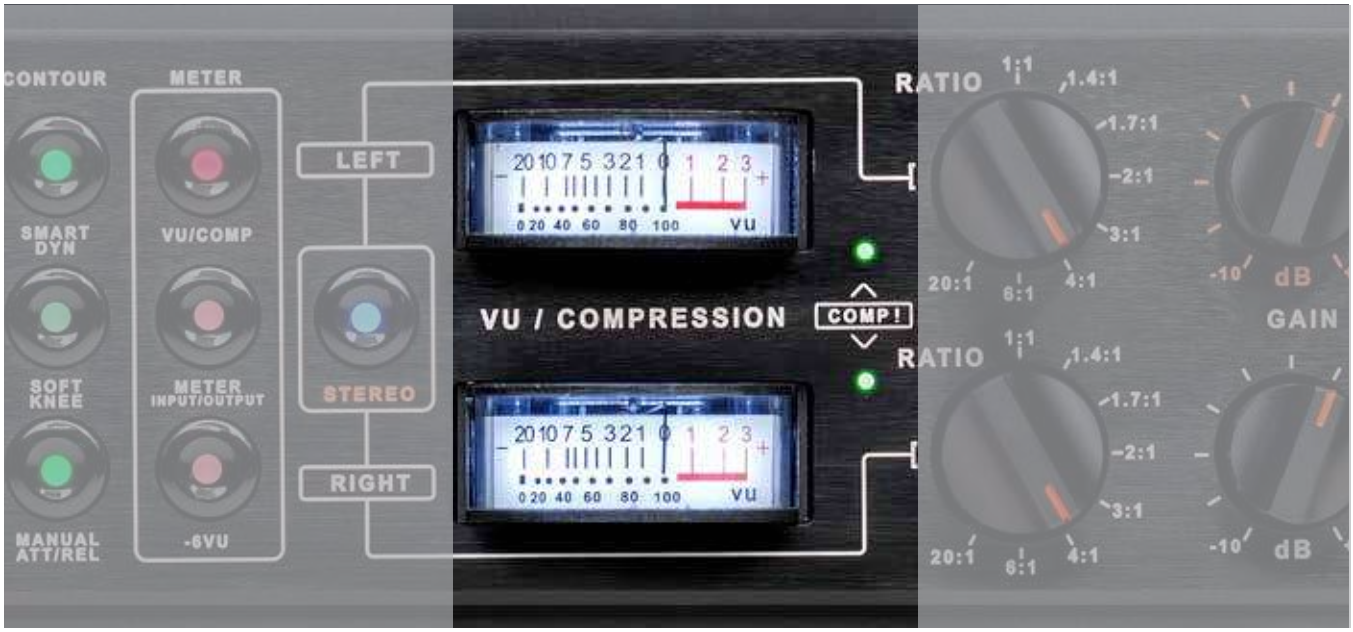
Benefit: Many stereo compressors sum the left and right channels and feed that signal to one detector. Unfortunately, any out of phase material will either not get compressed or will be under compressed. Furthermore, this will over represent mono (content up the middle) and under represent panned instruments to the VCA, thus making the compressor overreact to kicks, snares, and the lead vocal while not dealing with the panned toms, guitars and keys. The STEREO button on COMPRESSOR still uses both detectors to drive each channel's VCA for a more musical experience.

Tip: Please note: Both ratio knobs should be at the same setting when running in stereo. Also, the top Gain and Threshold controls work both channels. This makes it quick and easy to alter the gain and threshold of both detectors. You get the best of both worlds! Dual mono performance with the simplicity of a stereo compressor.

Tip: The attack and release are still independent. This comes in handy if there are transients on one side (loud hi-hat or guitar plucks) that you don't want dunking the whole mix. Just set a longer attack time to cure this problem.

Note: While in STEREO mode, the gain reduction will always track identically, since the control voltages are added together. Both channels react to whichever one is triggered, thus maintaining the stereo image.

6. VU METERS & LED INDICATORS



[VU METERS AND LED INDICATORS PICTURED ABOVE]

Feature: Visual feedback via both classic VU METERS and LEDS.

Benefit: Leverage the VU METERS for averages and the LEDS to identify fleeting transients: like the Audio Sherlock Holmes, catch even a single transient crossing the threshold.

Tip: This provides feedback for not only the amount of GAIN REDUCTION taking place, but also the speed of change (see ATTACK / RELEASE section further ahead).

Note: VU METERS and LEDS are inactive when unit in bypass (not engaged).

7. RATIO KNOBS



[RATIO KNOBS PICTURED ABOVE]

Feature: Stepped controls with subtle ratios:

1.4:1 • 1.7:1 • 2:1 • 3:1 • 4:1 • 6.1 • 20:1

Benefit: "Stepped" in this case means exacting, so you can control with confidence. The subtle ratios (i.e. 1.4 : 1 vs. 1.7 : 1) are incredibly powerful.

Definition: RATIO is the "how much" control. THRESHOLD is the "when" control. In other words, RATIO determines "how much" the level will be tamed once the audio crosses the THRESHOLD or the "when" control.

8. GAIN (MAKEUP) KNOBS



[GAIN KNOBS PICTURED ABOVE]

Feature: Compensate for level lost while compressing or limiting.

Benefit: When conducting a true A/B comparison of "before and after" it is critical that the levels are identical. Otherwise the louder shall always prevail (much like that macho talker on his cell phone in the restaurant). Secondly... we do not want to lose gain on it's way to the audio's next port of call or we will be adding noise at every toll booth.

Tip: The GAIN controls are ganged in STEREO mode, thus the top knob will control both channels.

9. THRESHOLD KNOBS



[THRESHOLD KNOBS PICTURED ABOVE]

Feature: THRESHOLD selects the point where the GAIN REDUCTION kicks in.

Benefit: THRESHOLD is the "when" control. "When" does the compressor start working? Gain reduction is implemented when the audio crosses this level or THRESHOLD.

Operation: Full clockwise has little or no effect. Bring it back gradually, counterclockwise for implementation.

Tip: RATIO determines "how much" the level will be tamed once it crosses the THRESHOLD.

Tip: The THRESHOLD controls are ganged in STEREO mode, thus the top knob will control both channels.

10. ATTACK KNOBS



[ATTACK KNOBS PICTURED ABOVE]

Feature: Determines “how fast” the GAIN REDUCTION kicks in.

Benefit: Tailor the speed to control transients or allow them to slip past and sculpt other portions of the audio.

Operation: Full clockwise is 100 milliseconds (slow), full counterclockwise is 1 millisecond (fast).

Tip: On a kick drum, setting the ATTACK too fast, will make it appear to lose bass content.

Tip: Most end users will opt for the AUTO ATTACK / RELEASE option.

Note: The MANUAL ATT/REL button must be activated (lit) to engage these controls. The green LED between the ATTACK & RELEASE knobs will also light.

Tip: The attack and release are still independent. This comes in handy if there are transients on one side (loud hi-hat or guitar plucks) that you don’t want dunking the whole mix. Just set a longer attack time to cure this problem.

11. RELEASE KNOBS



[RELEASE KNOBS PICTURED ABOVE]

Feature: Determines “how long” gain reduction is active after dropping below the THRESHOLD.

Benefit: Tailor the time to control sustain or sculpt other portions of the audio.

Operation: Full clockwise is 500 milliseconds (slow), full counterclockwise is 10 milliseconds (fast).

Tip: On a snare drum, setting a slower RELEASE time will accentuate the decay. Faster times will allow the compressor to reset between hits.

Note: The MANUAL ATT/REL button must be activated (lit) to engage these controls. The green LED between the ATTACK & RELEASE knobs will also light.

Tip: The attack and release are still independent. This comes in handy if there are transients on one side (loud hi-hat or guitar plucks) that you don’t want dunking the whole mix. Just set a longer attack time to cure this problem.

SPECIFICATIONS

Frequency Response	+- 0.25dB from 15Hz to 80kHz
Maximum level	> +27dBu
Noise floor	< -93dBu band limited from 22Hz-22kHz
THD+N	< 0.005%
IMD	< 0.007%
Crosstalk rejection	> 115dB@1kHz
Replacement Fuses:	USA 500mA fast blow for 120V Europe 250mA fast blow for 240V
Input Impedance:	20K Ohms
Output Impedance:	50 Ohms
Side Chain filters:	Bass cut is 6dB/octave, -3dB at 60Hz Sibilance boost corner frequency is 1kHz with +2dB at 5kHz shelving

WARRANTY

Free 2 year extended warranty with online registration.

Standard warranty: 90 days parts and labor, subject to inspection.

Does not include damage incurred through shipping damage, abusive operation or modifications/attempted repair by unauthorized technicians.

USA	EUROPE
Dangerous Music Inc.	Dangerous Music Europe
231 Stevens Road	Stieleichenweg 55
Edmeston, NY 13335	50999 Cologne, Germany
	Fon: +49 2236 393731
	Fax: + 49 2236 393732
Email: info@dangerousmusic.com	E-mail: info@dangerousmusic.de

Dangerous Music, Inc. reserves the right to alter the software and design of their equipment.

If after reading the manual more information for an application is needed, please contact us via email for the quickest response.

- Factory contact for RA# must occur before shipping a unit to us for service.
- Please keep the original cartons in case storage or transportation of units is required.
- Always insure shipment as these damages are not covered by the warranty.
- Thank you for actually reading the manual. Now go make some Dangerous Music!

revision 6.0 Audio Alchemist February 2014

DANGEROUS



MUSIC

Dangerous Music Inc. 231 Stevens Road, Edmeston, NY 13335 info@dangerousmusic.com www.dangerousmusic.com