

The Dangerous S&M Manual



Thank you for choosing products from the exciting line of *Dangerous Music* recording equipment. Many years of dependable and trouble-free service can be expected from our gear. This has been made possible by careful design, construction, and top-shelf component choices by recording industry veterans.

S&M stands for “Sum and Minus” and is a play of words on the techniques of Middle-Sides recording. This device, with the addition of appropriate analog processing gear allows the engineer to enhance the stereo effect of mixes or a pair of tracks in the mix. One can correct subtle mistakes in a mix quickly without having to set it up and run it again or re-record tracks (toss out keepers due to minor mistakes). As a mastering device, the **S&M** can help an engineer correct even serious problems that would usually be thought of as ‘unfixable’ quickly and easily (i.e. vocals in the center too bright, guitars on the sides too dull). A stereo pair of room mikes that have the ‘perfect’ drum sound, except the snare is too loud, can be fixed easily with a limiter in the Sum channel, etc. The ground work for these techniques was invented in the 1930’s by Blumlein and resurrected in the 1990’s by Muth for modern rock and pop music recording and mastering as used by top engineers in the music industry using his custom equipment.

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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. The “Grounding and interface” section can help the user/installer clear up a buzz problem if one develops.



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 of **S&M** 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.



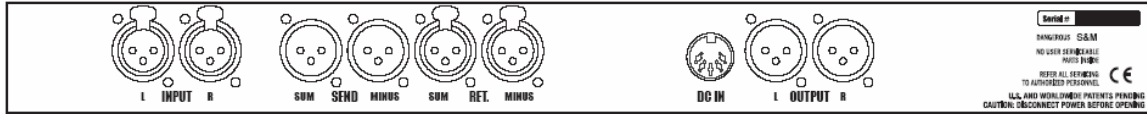
6. If adjustments or jumper changes are required, please disconnect the mains plug before opening the top. Dropped screws or tools on a live circuit board can manifest themselves as burn marks and smoked components. While we feel your pain, (been there) subsequent damage is not covered by the warranty.

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 the S&M has been tested and verified to conform to the applicable standards of 89/336/EEC. EN55103-1 (emissions) EN55103-2 (immunity) and EN60065:2002 (safety requirements)

Rear Panel and Hookup



The S&M is easy to use. Plug a stereo signal into the **INPUT** jacks. Put your favorite EQ, compressor, or de-esser in the **SEND** and **RETURN** jacks. Feed the **OUTPUT** jacks to the next stage you are using in the signal chain.

The power supply plugs into the DC IN jack. It is best to connect the supply to S&M before connecting the mains cable to the supply to avoid arcing the contacts.

There is lots of great equipment available that will work well in MS. It really helps to stick with hi-fi electronics as the signals through this process need to be treated as program material to be mastered. Here is the short list of our favorites:

EQ and Compressors

Manley Labs Massive Passive (standard version) and Vari-Mu.

<http://www.manleylabs.com/containerpages/masspass99.html>

<http://www.manleylabs.com/containerpages/mu99.html>

Geoff Daking and Company, Inc.

<http://www.daking.com/New%20Site%20by%20Juan%20Carlos/micpee.html>

<http://www.daking.com/New%20Site%20by%20Juan%20Carlos/comp.html>

Dan Kennedy's Great River Electronics.

<http://www.greatriverelectronics.com/EQ-2NV.html>

George Massenburg Labs.

<http://www.massenburg.com/cgi-bin/ml/mod8200.html?id=dVWbDcQ4>

A dBx 902 de-esser can really fix spitting-bright vocals in an otherwise normal track or allow one to increase the top end without having the vocal peel the paint off your walls.

Front Panel and Use



There are two controls on the front. The ‘Engage’ switch selects “stereo” or “S&M” mode. Stereo mode bypasses the matrix circuitry allowing use of the processors in the loop as normal (left and right). The “Width” control is a stepped attenuator giving precise 1/2dB steps to the difference channel. Straight up is normal. Clockwise increases the width. The knob can also tame a signal that has too much stuff on the sides by going counter-clockwise from the top. When working in S&M, a small twist of the Width control can really make the detail sparkle.

If one desires to use the box just as a width control with no loop processing, XLR patch cords need to be plugged into the S&M send and return loops.

In addition to enhancing stereo mixes, stereo instrument tracks, and creating interesting effects from subtle to not-so-subtle, the S&M is incredibly powerful when used to correct tracking and mixing oversights. A few usage examples will illustrate the principles.

You want to fix a mix that has too much 140 Hz mung on the bass guitar but not enough kick drum. At the same time, the guitars on the sides need some low end (160 Hz) to give them some beef. Big Problem? This one is solved with an EQ in about 1 minute by dialing out 140 Hz and adding 50 Hz and 3 kHz on the middle (left) channel, and adding 160 Hz shelving to the sides (right) channel. Instant mix fix. Amaze your friends!

You have a pair of room mics on the drums that sound really great when they are turned up in the mix but the snare is just too loud. This one’s easy also. Hook a limiter into the S&M loop and set the attack time to be really quick and dial the middle (left) threshold down until the snare sits comfortably.

You’re mastering a track and everything comes alive when you crank in a bunch of top end but the vocal is now cracking you eardrums. Hook a De-esser to the loop and solve that problem in 15 seconds or less. Amaze your friends again.

Specifications

Frequency response	1Hz – 100 kHz within 0.1dB
THD+Noise	0.003%
IMD60 4:1	0.004%
Sum and Minus channel separation	-78dB
Width control accuracy.....	0.02dB
Dynamic range	108dB
Maximum level	+23dBu
Nominal operating level	+4dBu
Power consumption	20 watts
Warranty	2 years from date of purchase by the original owner, parts and labor, subject to factory inspection. Shipping damage, accidental damage, abusive operation or modifications/attempted repairs by unauthorized personnel will result in shop fees payable before return delivery.

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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 by email for the quickest response. Factory contact must also happen before shipping a unit to us for service. Please keep the original cartons in case storage or transportation of units is necessary and always insure shipment as mechanical damage is not covered by the warranty.