



DBC-M
Diode Bridge Compressor
Mastering

Users Manual

Welcome...

Thank you for choosing the Buzz Audio DBC-M Diode Bridge Compressor. In this manual you will find important information regarding the use of the DBC and we suggest you do read it before using the unit to become familiar with all the controls and their function.

If after unpacking the DBC you find any damage to the unit you should contact your dealer or supplier immediately for advice on what to do.

We also suggest you retain the original packaging at least during the warranty period in case you need to return the unit for servicing, however we are confident this will not be necessary!

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1] Installation Precautions

Normally the DBC-M can be mounted into a rack without any special ventilation requirements as it runs pretty cool. If there are other units in the rack above and below the DBC that run hot, it may be necessary to allow for ventilation gaps between the units to avoid overheating. Excessive heat for long periods can shorten the life of all electronic devices.

2] The Mains Input

The DBC-M mains input can be set to run from 110V or 230V. On the rear panel you will find a circular voltage selector switch to set this up. Generally the DBC mains voltage is set for the country to which it has been initially sent, but before powering up the unit, please check the voltage selector.

POWERING UP THE UNIT WITH THE WRONG VOLTAGE SETTING MAY CAUSE BURN OUT OF THE POWER TRANSFORMER!

It is also important to fit the correct mains fuse. Below the IEC inlet you will see the fuse draw. Using a small flat blade screwdriver, you can flick open the draw and change the fuse if required. The fuse draw also has a place to hold a spare fuse (the square tube). The correct fuses are;

110V = 1.0 amp slow blow

230V = 0.5 amp slow blow

These fuses will either be fitted in the fuse draw, and/or supplied in an accessory bag with the DBC.

3] Audio Connections

On the rear panel of the DBC you will find the XLR input and output connectors. These connectors are wired as follows;

Pin 1 = Signal Ground

Pin 2 = Signal + (hot)

Pin 3 = Signal - (cold)

Note that the pin 1 connection of these connectors is not part of the audio path, and is provided to shield the interconnecting cable. Leaving pin 1 free at one end of the cable can help reduce earth loops with other equipment, as only the signal hot and signal cold connections are required.

IMPORTANT NOTE!

The output of the DBC is balanced using direct drive amplifiers, this means it should NOT be connected to an unbalanced input whereby one of the output "legs" will be short circuited to ground. This will cause the output to be 6dB low and operation of the BYPASS function will be adversely affected. The input of the DBC-M can accept balanced or unbalanced input signals with no change in operation.

4] Controls and Indicators



The DBC-M has two channels with identical controls. The DBC utilizes silicon diodes in a transformer coupled balanced arrangement as the gain reduction element and has a unique self-adjusting ratio control.

COMPRESSION

This 24 position switch adjusts the amount of signal sent to the side chain circuit and therefore the amount of gain reduction (or compression) applied to the input signal. Clockwise rotation increases the amount of gain reduction. Note that as the amount or depth of the compression is increased, so does the compression ratio and it will vary from about 2:1 up to 10:1 from threshold to about 15dB of gain reduction.

GAIN

Adjusts the post compression signal gain of the output amplifier. The 24 position switch has a range of -2.0dB loss to +10dB gain.

ATTACK

This switch has 6 positions and adjusts the time taken for the DBC to respond to signals that exceed the threshold (as set with the Compression control). This is the time taken (in milliseconds) to achieve about 15dB of gain reduction. The FAST position has an attack time of less than 0.5 milliseconds and is slightly dependent on the input signal.

RELEASE

This 6 position switch sets the time taken (in 100's of mS) for the DBC to release from 15dB gain reduction. The AUTO position has a clever circuit that releases from short transients (like percussive sounds) quickly but will be slower on more constant signals (program material). Using fast release times may cause audible distortion with some signals, in the low frequencies.

GAIN REDUCTION

The 15 led bar graph display is used to indicate the amount of gain reduction and it has a fast response so you can clearly see how much compression is being applied.



HARD-SOFT

This control selects between two modes of operation. In HARD mode the self-adjusting ratio control is in normal operation. When switched to SOFT the automatic ratio is modified and a measured amount of dynamic is retained. It's easier to try it and hear how it works rather than describe it here, but it is useful when lighter compression effects are desired. By nature of it's operation, this control also adds 1dB of gain to the output signal.

FLAT-BASS

When switched to BASS, a high pass filter in the DBC side chain is introduced which reduces the sensitivity of the compressor at low frequencies. This is useful in maintaining the low end of a full mix as the compressor is less sensitive to the lower frequencies.

BYPASS-ENGAGE

In the up position, this switch provides a hard relay bypass of audio input to audio output with no electronics in the signal path. This is useful in comparing the compressed to un-compressed signal. When using the DBC with stereo signals, both A and B channels' bypass switches would be operated together for a meaningful result.

SEPARATE-LINK A/B

In SEPARATE mode, the DBC-M operates as two completely individual mono channels. When switched to LINK A/B, the compressor side chains are linked to provide stereo tracking. This mode is used to prevent the stereo "image" shifting if a loud sound appears in only one channel of a stereo mix.

Note that unlike some VCA based compressors, all controls remain operational in LINK A/B mode. You MUST still set up both A and B channel's controls usually with identical settings for stereo program. Note the COMPRESSION controls of each channel are interactive, so reducing the compression on one channel results in a measured amount of reduction in the other channel.

POWER ON

This switches the mains power to the DBC-M on and off. A red light tells you when you have successfully achieved this operation. The DBC bypass relays are automatically engaged for a few seconds at power up to prevent thumps.

5] Specifications

Maximum Input Level = +27dBu

Maximum Output Level = +27dBu

Frequency Response = 6Hz to 400kHz

Noise = -80dBu A weighted (measured with 10dB make up gain applied)

**Harmonic Distortion at +10dBu input level and no gain reduction =
0.28%@100Hz, 0.25%@1kHz, 0.15%@10kHz**

**Harmonic Distortion with 10dB gain reduction (release 400ms)
1.5%@100Hz, 0.5%@1kHz, 0.5%@10kHz**

Gain variable from -2.0 to +10dB

Dimensions = 1U rack mount case (482W x 44H x 250D)

Weight = 2.9kg

Mains voltage = 110 or 240Vac selectable

6] Service Information

We are confident that you will receive many years of trouble free operation from your unit. If however you experience any technical problem with your DBC-M, contact your dealer or Buzz Audio for recommendations on what to do.

The DBC is constructed with non-surface mount serviceable parts, this means most electronic faults can be easily repaired. Switches are mechanical devices and do eventually wear out, but you should receive many years of use before replacement might be necessary.

Please note there are no user serviceable parts inside the DBC-M and attempting any internal adjustments without the alignment instructions and correct test equipment is not recommended.

For on line support visit our web site www.buzzaudio.com

**Buzz Audio Ltd, PO Box 6677, Wellington 6141, New Zealand.
Phone +64-(0)4-472-3084. Email; support@buzzaudio.co.nz**

7] Product Warranty

- **Disclaimer**

Buzz Audio Ltd is not liable for any damage to microphones, amplifiers, consoles, speakers or any other equipment and/or electric shock to humans that is caused by negligence or improper installation and/or use of the DBC-M Diode Bridge Compressor.

- **Standard Product Warranty**

Buzz Audio Ltd guarantees the DBC-M Diode Bridge Compressor to be free of defective materials and/or workmanship for a period of 1 year (12 months) from the date of sale, and will replace defective parts and repair malfunctioning products under this warranty when the defect occurs under normal installation and use - provided the unit is returned to our factory (or duly authorised service centre) via prepaid transportation with a copy of the proof of purchase, ie, sales receipt. This warranty provides that examination of the returned product must indicate, in our judgment, a manufacturing defect. This warranty does not extend to any product that has been subjected to misuse, neglect, accident, improper installation, or where the date code has been removed or defaced. The standard warranty is NOT transferable.

- **Product Warranty Extension**

The above Warranty may be extended to a period of 2 years (24 months) from date of sale provided the Warranty Registration form on our website is completed within 4 weeks (28 days) from purchase date. The Extended Warranty is transferable.

<http://www.buzzaudio.com/register.php>

DBC-M MASTERING

DIODE BRIDGE COMPRESSOR

GAIN 3.0 3.5 4.0 4.5 5.0 5.5 6.0 6.5 7.0 7.5 8.0 8.5 9.0 1.0 1.5 2.0 2.5

COMPRESS 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23

dB GAIN REDUCTION 5 10 15 25 50

ATTACK 5 10 15 25 50

RELEASE 50 100 200 400 600 AUTO

HARD **FLAT** **SOFT** **BASS** **ENGAGE**

CHANNEL A

buzzaudio

SEPARATE

LINK A-B

POWER

ON

GAIN 3.0 3.5 4.0 4.5 5.0 5.5 6.0 6.5 7.0 7.5 8.0 8.5 9.0 1.0 1.5 2.0 2.5

COMPRESS 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23

dB GAIN REDUCTION 5 10 15 25 50

ATTACK 5 10 15 25 50

RELEASE 50 100 200 400 600 AUTO

HARD **FLAT** **SOFT** **BASS** **ENGAGE**

CHANNEL B

DATE..... SESSION.....