

# Purple Audio MC 77

## Plugin Manual



Developed by Brainworx Audio in partnership with Purple Audio and Distributed by Plugin Alliance.





## Introduction

The MC77 is a gain limiting amplifier. Units of this type have been used for many years to provide precise and automatic control of peak signal levels in recording studios, disc mastering facilities, broadcast stations, and sound reinforcement applications. Gain reduction in the MC77 is accomplished by using a Field Effect Transistor (FET) as a voltage controlled variable resistor shunt. The FET is the first active component in the signal chain. Large amounts of limiting can occur without large increases in distortion. There are four compression ratios that can be used to best complement the program material and the specific application.

Attack Time is continuously adjustable from less than 20 microseconds to 800 microseconds. The fast attack time response is independent of peak frequency content or duration. Release time is continuously variable from 50ms to 1.1s. Release time is defined as the time it takes for the gain to recover to within 63% of the normal non-limiting gain. Utilizing Brainworx expertise in precisely modeling complex analog circuits, MC77 now brings this versatile tool into your DAW preserving its unique sound and character.



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## Amp

### 1 Input Gain

The Input control sets the input signal level to the compressor, which, in the MC77 design, determines both the threshold and total amount of gain reduction. Rotate the knob clockwise to increase the compression amount.

### 2 Input / Output Link

Input / Output Link links the Input and Output Level controls. The link relationship is inversely proportional, so an increase in the Input Level results in a corresponding decrease in Output Level and vice versa.

\*Modifier Keys control see on page 9. Holding down a Modifier key will deactivate any form of linking temporarily.

### 3 Output

The Output control sets the output. Use it to bring the signal back to unity after applying gain reduction.

### 4 Attack

Attack sets the amount of time it takes to respond to an incoming signal and begin gain reduction. The attack time is adjustable from 20 microseconds (position "7") to 800 microseconds (position "1"). When Attack is in the OFF position the Gain Reduction circuit is bypassed. Use the Off mode and balance Input/Output gains to yield distortion effects without dynamics processing by only using the gain stage of MC77.

### 5 Release

Release sets the amount of time it takes the MC77 to return to its initial (pre-gain reduction) level. Release time is adjustable from 50 milliseconds (position "7") to 1.1 seconds (Position "1"). The longer the release time, the longer the compressor holds on to the signal.

### 6 Key In

Routes an External Sidechain signal to the plugin if your DAW supports this. When engaged, the Compressor will react to the External Signal instead of the input signal of the plugin.

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### 1 SC-Link

Only available in stereo instances. SC-Link links the Sidechains of the left and right channels so both channels are compressed by the same amounts. For instance, with the Link function not activated, a sound that only exceeds the Threshold on the left channel would trigger the compression on the left channel only. However, if the Link function is activated, the right channel is compressed, too.

### 2 Ratio

The Ratio Push switches select the compression ratio from 4:1 to 20:1. For the Multi-Button modes use the Hold button. When Hold button is enabled, arbitrary combinations can be used. The compression ratio is then between 4 and 20 and differing amounts of distortion can occur. If all buttons are disabled, the sidechain is bypassed, and the signal level is increased by a constant gain offset.

### 3 Meter

I/O & GR: If set to „GR“ the meter shows the gain reduction applied in dB. If set to I/O the meter represents the signal level of either input or output referenced to +4 dBu.

### Out & In

Defines if Input or Output level is displayed by the meter while Meter Mode is set to I/O. The Input meter shows signal level before any processing happens and the Output meter shows signal level after all processing.

### Byp

The BYP button bypasses the processing.

### On

If „Power“ is set to off, the processing is hard bypassed. Metering and lights are shut off. This parameter is linked to the blue Bypass button in the Plugin Toolbar. Some DAWs generate clicks, pops and crackling by clicking this parameter. Use then the “Byp” parameter.

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## Brainworx Module

### TMT

The Purple Audio MC77 offers 20 different compressor channels, made possible by TMT. TMT is Brainworx's patent-pending Tolerance Modeling Technology, originally found in the bx\_console line of plugins. It takes the real-world tolerances of audio components found in audio circuits into account and offers various channels of analog audio which have realistic variances in frequency response, time constants in dynamic sections, etc. The result is digital audio that sounds as analog as possible, whereas even the L/R channels of a stereo instance will react slightly different. For more information please check [www.brainworx.audio](http://www.brainworx.audio)

### 1 Stereo Mode

Toggles between using the same TMT channel for both units (Digital) and using two adjacent TMT channels (Analog).

### 2 Channels

TMT, switches between 20 different channel strips. In a Stereo instance, two adjacent Channel numbers will be displayed. Each channel has its own, different character!

### 3 Random Channel

Whenever you instantiate an MC77 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 the Random Channel button. Only the plugin instance you 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 activate an unused channel number unless you engage more than 20 channels. At that point, the plugin obviously would have to use a channel number that has already been used.

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### 1 Parameter Link

#### Off

This disables parameter link so that controls can be set independently for each side, L/R or M/S.

#### Standard

This enables the linking of parameters in a stereo instance. When both parameters have different values and the link is engaged, both parameter values remain unless one of them is touched.

#### Proportional

This also enables linking of parameters in a stereo instance, but the link relationship is proportional between the parameters. This option is very useful in the M/S mode.

### 2 M/S

Engages Mid/Side processing. When this is set to On, the Left Channel processes the Mid (Sum) of both channels and the Right Channel processes the Side (difference) of both channels.

### 3 Headroom

Adjusts the internal operating level so that the Plugin produces more or less gain reduction. Rotating the control clockwise will allow signals at the input to be pushed higher before they compress, this will result in less compression overall. By rotating counter-clockwise headroom is decreased resulting in a greater amount of gain reduction and more color and compression being added to the signal. This parameter is perfect for fine-tuning the effects produced and also for accurate level matching.

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### 1 HP-SC-Filter

High-Pass Filter for the Compressor Sidechain.

### 2 Mono Maker

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 20 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.

### 3 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.

### 4 Parallel Mix

Controls the amount of unprocessed signal being blended with the processed (compressed) signal, effectively providing the option of parallel compression.

100% = you'll only hear the compressed signal.

0% = you'll only hear the un-compressed signal.



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### Top Toolbar

#### 1 Undo / Redo

You can undo and redo changes you made to the controls of the MC77 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.

#### 2 Settings (A/B/C/D)

The 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 in one setup / preset. Now, the SETTINGS can be automated in your DAW! This way it's 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.

#### 3 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.

#### 4 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.

#### 5 UI

 The icon closes and opens the bottom panel containing the Brainworx's plugin only features.





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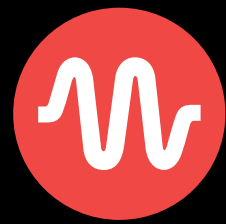


### Modifier Keys

Tested with Logic Pro X, Protools, Cubase, and Presonus Studio One Mac/Win.

Plugin Format	Jump between Default / Last Setting	Fine Control	Unlink linked controls
<b>Modifier Keys Assignment</b>			
AU	Option	Shift	Command
AAX	Option (Mac), Alt (Win)	Command (Mac), Ctrl (Win)	Shift
VST + VST3	Command (Mac), Ctrl (Win)	Shift	Option (Mac) / Alt (Win)





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