

# — COMPADRE beatpuncher —

Professional Dynamics Processor  
Audio plug-in | VST PC

## USERS MANUAL

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Revision 1.01

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# INTRODUCTION

COMPADRE is the result of more than one year of research, development, and countless hours of listening tests. The final product is a quality compressor that not only delivers a highly optimized sonic behavior, but also drips with its own character. COMPADRE is designed specifically for use on beats, drum loops, and other percussive material, and it does this with attitude and flexibility. Use it for subtle enhancements or heavy duty compression.

While COMPADRE has been designed with drums in mind, it's range of flexibility allows it to deliver good performances on most types of tracks and mixes as well.

## Key Features

- Feed forward RMS compressor with high quality characteristics.
- Multiple compression modes.
- True stereo sidechain. (4 channel input; 1+2=audio, 3+4=Sidechain)
- High & lowpass filters on the sidechain.
- Further 9 filter models featuring presets with key frequencies in drum mixing.
- Adjustable low-level controls to fine-tune the compression characteristics. ("Snap", "Linearity" & "Envelope").
- Dry/wet control allowing easy "parallel compression".
- Optional extra "Crunch" by enabling a built-in second compressor on the output stage.
- Optional limiter on output to avoid clipping.
- Zero latency
- 80 categorized presets.

# INSTALLATION

## How to Install.

Run the setup file and follow the on-screen instructions. Maybe you want to copy this manual to an appropriate location, too. Once installed, run your VST host and load up COMPADRE.

Until you have registered the plug-in will hide it's controls. To register, click the *License* button in the lower left corner to open the registration window. Enter the license information you have received by mail when ordering.

When you've entered valid license information you will get a message that COMPADRE has been registered, and you will be ready to enjoy the plug-in.

## Versions

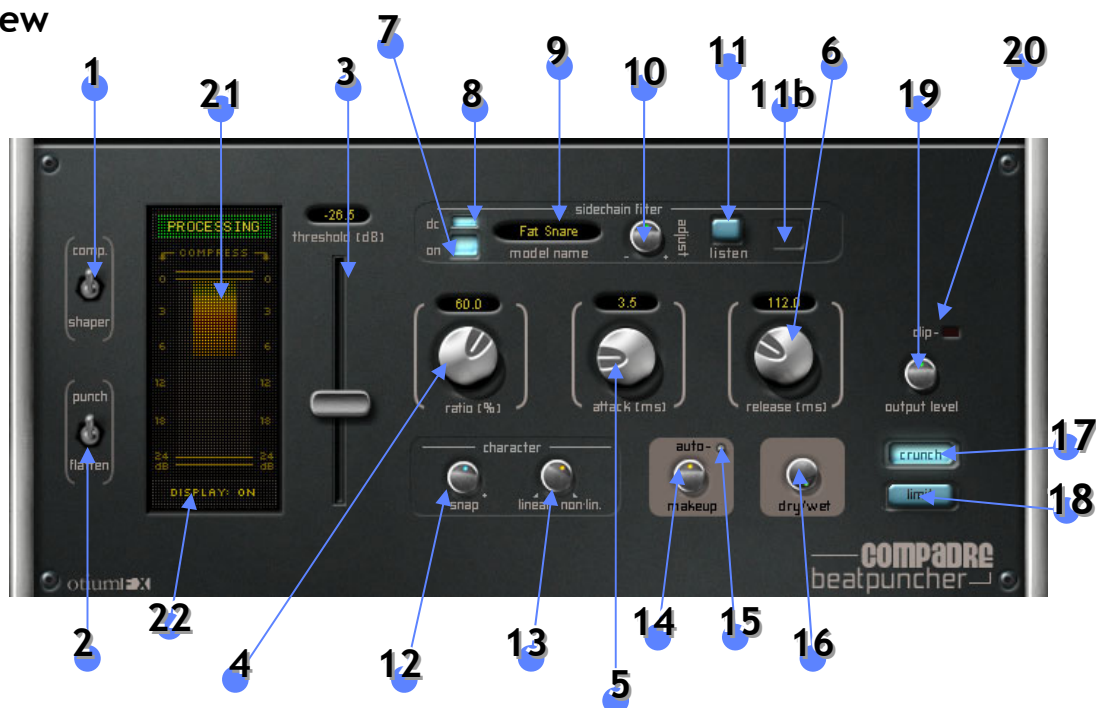
COMPADRE will install 4 versions of the plugin:

- |                           |                                                                                                                                                                                                                        |
|---------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| otiumFX Compadre:         | The 2 channel input stereo version (the regular one).                                                                                                                                                                  |
| otiumFX Compadre SC:      | The 4 channel input stereo sidechain version. <ul style="list-style-type: none"><li>- Ch. 1+2: Audio input. (Which will be compressed).</li><li>- Ch. 3+4: Sidechain input (Which will control compression).</li></ul> |
| otiumFX Compadre MONO:    | The 1 channel input mono version.                                                                                                                                                                                      |
| otiumFX Compadre MONO SC: | The 2 channel input mono sidechain version. <ul style="list-style-type: none"><li>- Ch. 1: (Which will be compressed).</li><li>- Ch. 2: Sidechain input (Which will control compression).</li></ul>                    |

The versions above labelled SC (Sidechain) allow you to enable external key input, but all versions feature sidechain filtering.

## INTERFACE & CONTROLS

### Overview



### Compression Mode

1. Selects general operation to function in either *compressor* mode, or in a more experimental *shaper* mode.

### Compression Style

2. Selects either the default *punchy* compression style, or a more transparent level controlling style of compression called *flatten*.

### Threshold

3. Sets the threshold above which compression takes place (dBFS).

### Ratio

4. Sets the amount of compression applied (%).

### Attack

5. Sets the time it takes for the compressor to reduce gain (ms).

### Release

6. Sets the time it takes for the compressor to return to normal gain (ms).

### Sidechain Section

- |              |      |                                                                                                                                         |
|--------------|------|-----------------------------------------------------------------------------------------------------------------------------------------|
| on/off       | 7.   | Switches sidechain filtering on and off (Illuminated=on).                                                                               |
| DC           | 8.   | Enables DC fix and removal of stressing sub frequencies from sidechain signal.                                                          |
| Filter-model | 9.   | Selects the sidechain filter. Choose from 2 high- & lowpass filters, and 9 preset filter-models.                                        |
| Adjust       | 10.  | Context sensitive knob allowing adjustment of the bandwidth of the preset focus, or of cutoff frequency on low- and highpass filters.   |
| Listen       | 11.  | Activates monitoring of the sidechain.                                                                                                  |
| Key in       | 11b. | Activates external key input to sidechain through input 3+4 (Only available in SC version). * above illustration shows the 2ch version. |

## Character Section

- |                   |     |                                                                                  |
|-------------------|-----|----------------------------------------------------------------------------------|
| Snap              | 12. | Sets the “snappy”-ness of the attack.                                            |
| Linearity (comp.) | 13. | Adjusts the linearity of the transfer function (only in <i>comp.</i> mode).      |
| Envelope (shaper) | 13. | Selects between 7 attack/release envelope contours (only in <i>shaper</i> mode). |
- \* note that this control is not visible on above illustration because Comp. mode is active.*

## Makeup Gain

- |        |     |                                           |
|--------|-----|-------------------------------------------|
| Makeup | 14. | In or decrease the amount of makeup gain. |
| Auto   | 15. | Enables auto makeup gain.                 |

## Dry/wet

- |     |                                                                  |
|-----|------------------------------------------------------------------|
| 16. | Mixes the processed (wet) signal with the original (dry) signal. |
|-----|------------------------------------------------------------------|

## Crunch

- |     |                                                            |
|-----|------------------------------------------------------------|
| 17. | Activates a second crunchy compressor on the output stage. |
|-----|------------------------------------------------------------|

## Limit

- |     |                                                            |
|-----|------------------------------------------------------------|
| 18. | Activates a limiter on the output stage to avoid clipping. |
|-----|------------------------------------------------------------|

## Output Level

- |     |                                                           |
|-----|-----------------------------------------------------------|
| 19. | Sets the output level (After Crunch, but before Limiter). |
|-----|-----------------------------------------------------------|

## Clip led

- |     |                                                                       |
|-----|-----------------------------------------------------------------------|
| 20. | Warning led that lights up whenever the output signal exceeds 0 dbFS. |
|-----|-----------------------------------------------------------------------|
- \* note that the signal is not actually clipped unless the Limiter is activated.*

## Graphic Display

- |     |                                                                                                                                                                                          |
|-----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 21. | Processing led lights up whenever the compressor is active, and <i>gain reduction</i> meter indicates amount of gain reduction applied. (Not including <i>crunch</i> and <i>limit</i> ). |
| 22. | Turns graphic display on and off. Turn off to save CPU.                                                                                                                                  |

## Controls

To change a knob or slider’s control value hold left mouse button and drag the mouse up and down.



**You can do fine adjustments by holding down CTRL while dragging the control.**

Switches and buttons are controlled simply by left clicking on them.

The small knobs feature leds with changing colours to give you a visual reference of the current setting. The default state for these small knobs have a clear green light. As you move them towards more extreme settings the lights gets increasingly yellow and red.



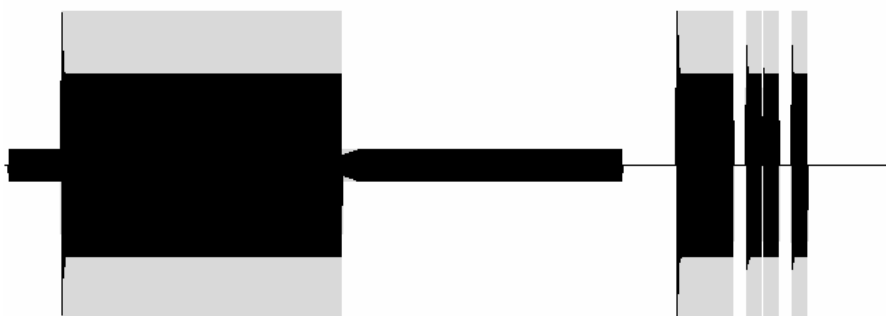
**NOTE:** Sometimes the interface values, meter etc will not update if your hosts audio engine is not running, or if you have bypassed the plug-in.

## COMPRESSION MODES

COMPADRE gives you a choice between two different compression modes, which significantly changes the way the entire processor operates.

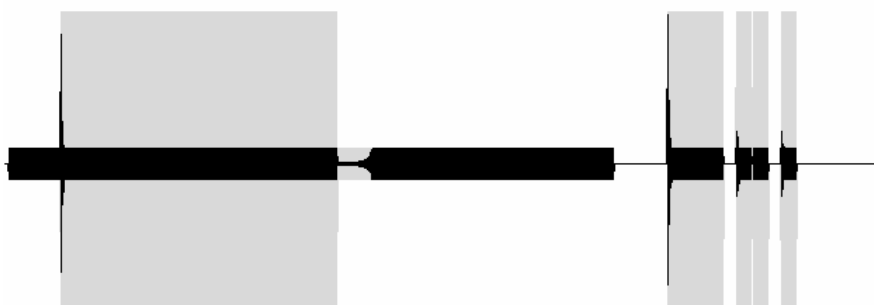
### “Comp.” - Compressor Mode

The *Comp.* mode is the default mode of COMPADRE and operates in a similar fashion to what you'll expect from any compressor, but does it with the tailor-made response unique for this plug-in.



### “Shaper” - Shaper Mode

The *Shaper* mode offers a more untraditional approach to compression, making it possible to achieve interesting effects ranging from adding subtle punch to material lacking edge and definition, to wild and funky gated-sounding compression. In this mode *compression ratio* is applied regardless of how much the signal exceeds the *threshold*. This, combined with the opportunity to choose between 7 different attack/release envelopes (control 13), gives you a great tool to freely shape the dynamic contour of your material.



***Pay close attention to your threshold setting when using the Shaper Mode. Even small changes can result in very different sounding effects, so remember to experiment with the setting before committing.***

***The Shaper Mode should be considered a “parallel compressor”, meaning that often you should use the dry/wet knob to control the severity of the dynamic shaping.***



## COMPRESSION STYLES

Besides the compression modes COMPADRE furthermore offers two different styles of compression. Think of the *compression modes* as the overall operation mode, and the *compression styles* as a selection of flavour.

### “Punch”

COMPADRE defaults to this selection; a tight and punchy sounding style of compression. This will most likely be the preferred mode for the vast majority of tasks.

### “Flatten”

The *flatten* style will give you a more transparent sounding compression. Use this when you are looking to control the levels of your material rather than changing it's character. This mode has primarily been designed for use in conjunction with the *Comp.* compressor mode.

## PARAMETERS

### Basic Controls

The main controls consist of basic compressor parameters; *threshold*, *attack*, *release*, *ratio* and *makeup gain*.

#### Threshold

Sets the threshold above which compression takes place. This is measured in dBFS. The further down you drag the slider the more your material will be processed.

Keep an eye on the *graphical display* while tweaking the threshold. The top of the display labelled *Processing* will light up in green as the signal starts to exceed the set threshold; i.e. meaning gain reduction is applied.



#### Ratio

Sets the amount of compression applied above the threshold. Measured in %. The higher the ratio, the more gain reduction is applied, and the more severe the compression will sound.

#### Attack

Sets the time it takes for the compressor to reduce gain. Measured in milliseconds. This has a great deal of impact on how your compression will sound. Generally speaking, longer attack times will allow more transients to pass through, while a short attack time will squash and crush more of your signal.



*If you are looking for a punchy sound it's necessary to allow some transients to pass through, i.e. a somehow long attack time (3-15ms). Shorter attack times (0-3ms) can add a nice crunched flair to the sound but also risks making things too flat and lifeless.*

*So it's always a matter of balance. A good attack time depends on how you prefer the result, and to a high degree the material you are processing. So trust your ears.*

#### Release

Sets the time it takes for the compressor to return to normal gain after the signal has dropped below the threshold. Measured in milliseconds. As with the attack setting, this has great affect on how the compression sounds. In general, short release times will give you a more audible compression effect, while longer release times result in a more natural sound but will not give you as much real compression.

**NOTE:** Be careful with the timing settings in their fastest positions, especially when working with low frequency material, as this can lead to distortion.

#### Makeup Gain

Adjusts the level after the signal has been compressed. This will also allow you to adjust the level of the signal entering the *crunch* stage if you choose to enable it.

The *makeup gain* features an **auto** button. Enable this and COMPADRE will automatically calculate an estimated makeup gain value based on your settings. Be aware that the *auto* button results in an

approximated maximum gain setting, so you should still watch your output levels. Use the Makeup Gain knob to increase or decrease the auto makeup gain.

## Output Controls

The output controls consist of *dry/wet*, *output level*, *Crunch*, and *Limit*.

### Dry/Wet

Mixes the processed signal with the original signal. Turned fully left results in an output of the dry (original) signal. Turned fully right you'll only hear the wet (processed) signal.

This is an important control when operating in the *shaper* mode.

### Crunch

Activates a second dedicated compressor on the output stage to initiate some serious crunch. You can not directly change the settings of this processor, however it is partly dependant on the settings you dial in on the main compressor.

The *Crunch* processor will feed off the same sidechain signal as the main compressor, ie. assigning a sidechain filter will affect both the main compressor and the signal driving the *Crunch* stage. The *Release* setting will also partly affect the *Crunch* processor.

Furthermore, understanding the signal flow and knowing that the *Crunch* stage is after the output from the main compressor, you'll be able to control the amount of crunch-effect by altering the *makeup gain* from the main compressor. Turn up the makeup gain and the signal will enter the crunch stage with more drive and thus the crunch processor will have a greater impact.

### Output Level

Sets the final output level of the entire Compadre unit. This means you control the signal level after the *Crunch* stage but before the *Limit*er.

Above the output level knob you'll find a warning led labeled Clip. This will light up in red whenever the output signal exceeds 0 dbFS, so you'll have to either turn down *Makeup Gain* or *Output level*, or alternatively activate the *Limit* function.




---

**Having doubts about which knob to turn down when the “Clip” led lights up?**  
**Remember that pushing the “Makeup Gain” harder will increase the “Crunch” effect if it’s turned on, and will also affect the balance of “dry/wet” mix settings.**



**So “Makeup Gain” does in fact interact with the sound character, while “Output level” affects nothing besides the signal level. Of course both of them can be used to drive the signal hard into the limiter.**

---

### Limit

Turn this on to activate a limiter on the output stage to keep the output from going above 0dbFS.

## Character Controls

The Character controls gives you access to low-level parameters of the compression circuitry and thereby allowing you to fine-tune the compression characteristics to your specific purposes. Character controls consist of *Snap*, *Linearity*, and *Envelope*.

The character controls section is context sensitive. *Linearity* is only available when operating in *Comp.* mode, while *Envelope* will be available when operating in *Shaper* mode.

### Snap

Sets the “snappy”-ness of the attack. Use this control in conjunction with the *Attack* setting to precisely control the compressor’s attack. While the normal *Attack* parameter is a time based control, the *snap* parameter works by increasingly allowing transients to pass through without affecting the timing settings.

Turned right adds more “snap” & punch to the sound. Turned left gives a smoother & more flattening compression. Note that high *snap* settings will often override low *attack* settings, so if you wish to completely crush the signal with short attack times, you should keep the *snap* setting low.

### Linearity (*Comp. mode only*)

Adjusts the linearity of the transfer function. This controls whether the compression ratio is constant linear or partly dependant on audio material and settings.



---

Turn the knob towards “Linear” to get a squashed sound, and turn it towards “non-lin” to allow more air.

---

### Envelope (*Shaper mode only*)

Selects between 7 attack/release envelope contours. Click to browse through a visual representations of the envelope applied as gain reduction. First half (from the left) is the attack stage, the last part the release stage.



This is a very powerful feature to precisely shape the dynamic processing to best fit the material and your sound preference.

## SIDECHAINING

COMPADRE features true stereo sidechaining allowing both external key input and sidechain filtering. While these features are well known among hardware compressors, external input to the sidechain is a rare feature in software processors. COMPADRE brings this essential function to the software studio.

### Sidechaining in General

In rough terms, a compressor can be described as consisting of two circuits: the *Level detection circuit*, and the *Gain reduction circuit*.

The actual compression/gain reduction is dependant on the audio level determined by the detector. Sidechaining is all about giving you control over the signal that enters the detector circuit and ultimately drives the compression. The most common techniques involve either filtering the signal, or assigning a different audio source to control the compression. Common uses for this are de-essing, ducking, and synchronized gating, which are well known techniques in studios working with hardware compressors.



### Sidechain Controls

There are several options for sidechain filtering in COMPADRE. You can dial in the setting you need on either the low or highpass filters, or you can use one of the nine preset filter models.

None of these filters affect the output directly because they are only applied to the signal going into the detector, but by adjusting this signal you have a great deal of control over which frequencies will trigger the compression.

For example; if you have a drum loop but only wish to compress the kick drum, simply select the appropriate filter model ("Just Kick") on the sidechain and voilà! Or perhaps you are looking for a smoother sounding compression, then select filter model "Smooth" and it will filter out the very high and low frequencies which could disturb the compression.

The sidechain controls consists of *DC*, *ON*, *Model Name*, *Adjust*, *Listen* and *Key In*.  
(The key-in button is only available in the SC versions).

#### DC

Turn this on to enable DC fix and removal of stressing sub frequencies from sidechain signal.

#### ON

Switches sidechain filtering on and off (Illuminated=on).

**Model Name**

Click on the name and you will be presented with a popup menu containing 7 different sidechain filters. Choose from 2 high & lowpass filters, and 9 preset filter models.

The lowpass and highpass filters have a fixed 6 db/oct response, and their cutoff frequency is set with the context sensitive knob *Adjust*.

The preset filter models represent a range of key frequencies throughout the whole spectrum; from “Just Kick” centered around the bottom-end to “Hihats Sparkle” in the higher frequencies. When using one of these preset models, the *Adjust* knob functions as a bandwidth fine-adjustment.



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***Example of use:*** On a drum loop or submix you can use the filter preset “Free Hats” to filter out hihats from the sidechain. This means that COMPADRE will not be triggered by the hihats and you will get a nice bouncy compression style.

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**Adjust**

As mentioned, this knob is context sensitive - dependant on which filter type is selected.

When using either low or highpass filters this knob controls the cutoff frequency.

When using one of the filter presets this knob adjusts the bandwidth.

**Listen**

When enabled allows you to audition the sidechain signal, and how you are affecting it by filtering. This signal will therefore have no compression applied. It's just a convenient way to hear what exactly will drive the compression.

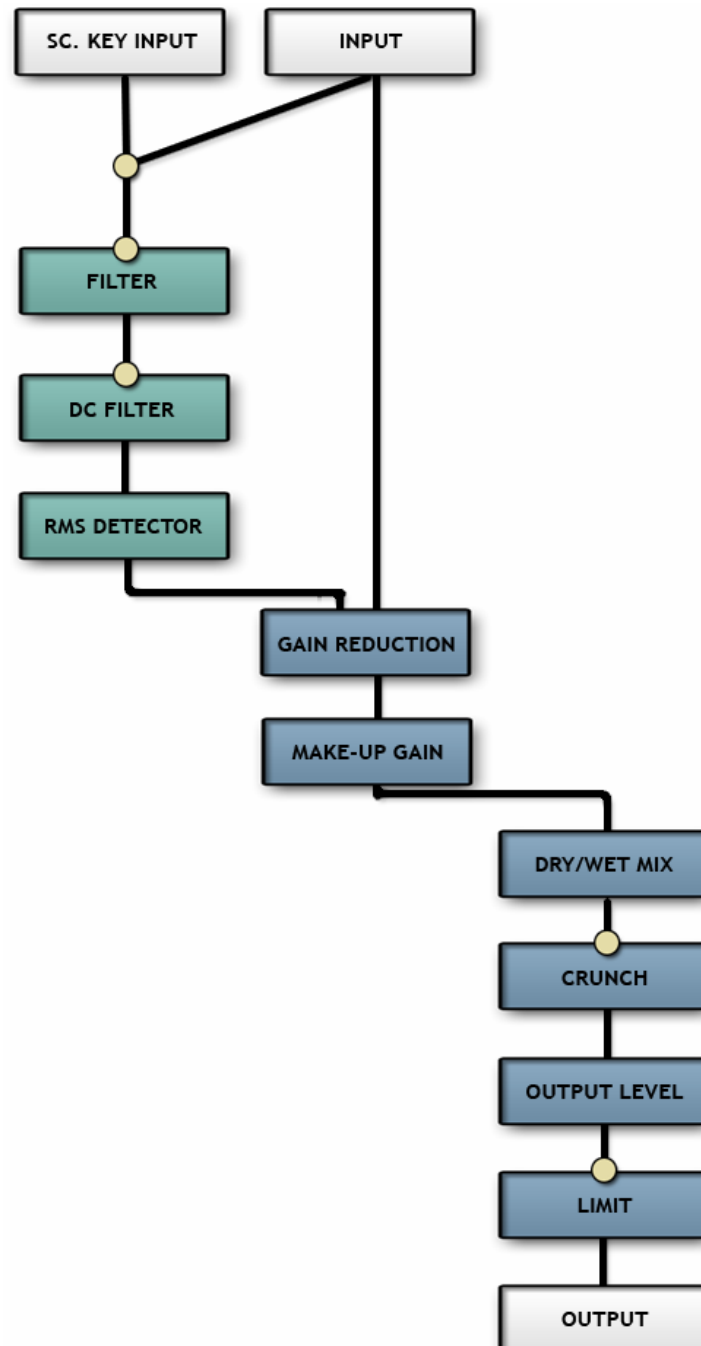
When using the SC version it's also a convenient way to ensure that you have setup the environment correct and that you are in fact routing the right external signal for the sidechain.

**Key In (SC version only)**

When enabled COMPADRE will route the external input to the sidechain/detector circuit and use this to drive the compression. Naturally, any sidechain filtering will be applied to the external signal when *Key In* is enabled.

For the stereo version this is channel 3+4, and for the Mono version it's channel 2.

## SIGNAL FLOW



## CREDITS

### COMPADRE | Beatpuncher | VST/PC by otiumFX

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