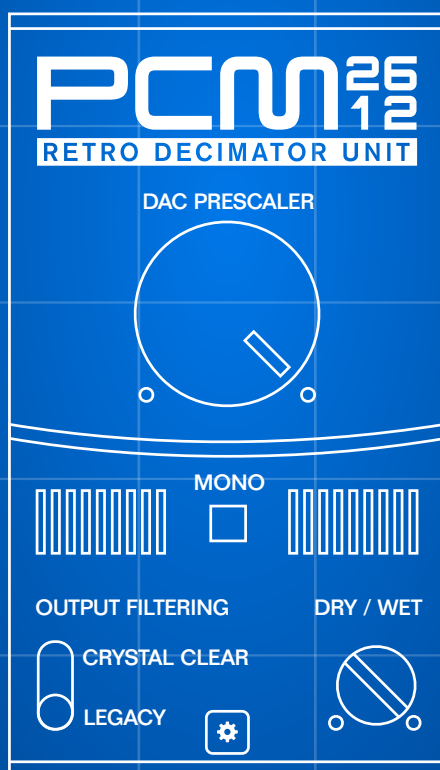




INPHONIK

# PCM<sup>25</sup><sub>12</sub>

## RETRO DECIMATOR UNIT



## USER MANUAL

## Table of content

# PCM<sup>26</sup><sub>12</sub>

## RETRO DECIMATOR UNIT

Introduction	3
Installation	4
User support	5
Subscribe to our Newsletter	5
What is the PCM2612?	6
A feature taken from the RYM2612	6
Controls	7
DAC Prescaler	7
Mono	7
Output Filtering	7
Dry/Wet	7
Settings	8
Parameter Value Keyboard Typing	8
Rack Version	9
Rack Back panel	9
End-User License Agreement (EULA)	10
Disclaimer	13
Credits & Thanks	13

# Introduction

The PCM2612 Retro Decimator Unit is the continuation of our work made on the RYM2612 Iconic FM Synthesizer, expanding its ecosystem. As much as the RYMCast Genesis VGM Player, the PCM2612 has a place of choice as a companion effect plug-in that completes our offer in our YM2612 product line.

We're proud of this little effect plug-in, since it resolves a problem we had with the RYM2612's PCM playback feature that not all DAW could use appropriately, due to its audio-in functionality that's not so common for an instrument plug-in.

The PCM2612 is as simple as possible: one FX, one knob. Yet, so much character! It's our tribute to the magnificence of the 8-bit sound. This decimated noise has shaped our youth. It was the mark of the prowess of the engineers and the artists who produced the classic video games and original soundtracks we still love today.

We like to believe our plug-in inspires you to make your favorite style of music.

Sincerely,  
Your friends at Inphonik,  
Mathieu Demange & William Lamy

# Installation



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## VST2, VST3, AUDIO UNIT, AAX

<https://www.inphonik.com/products/pcm2612-retro-decimator-unit/>

<b>Windows</b>	Minimal requirements: Windows Vista (64-bit) and higher
<b>macOS</b>	Minimal requirements: macOS 10.7 (64-bit) and higher
<b>Linux</b>	Minimal requirements: a 64-bit distro

1. Download the installation program from your order confirmation email
2. Run the installation program
3. Choose the desired plug-in formats to install
4. Run your DAW and find the PCM2612 in the effects list



---

## RACK EXTENSION (REASON STUDIOS)

<https://www.reasonstudios.com/shop/rack-extension/pcm2612-retro-decimator-unit/>

**Windows / macOS** Minimal requirements: Reason v10.1 and higher

1. Download the PCM2612 from the Reason Studios Shop
2. Recommended: sync your Rack Extensions for offline use
3. Run Reason and find the PCM2612 in the effects list



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## IOS APP (AUV3/IAA FOR APPLE IPAD, IPHONE & IPOD TOUCH)

<https://itunes.apple.com/us/app/pcm2612-retro-decimator-unit/id361285480>

**iOS** Minimal requirements: iOS 9.3 and higher

1. Download the PCM2612 from the App Store
2. Run your music app and find the PCM2612 in the effects list

## User support

Thank you so much for buying our product!

We're ready to assist if you need help!

Please go to: <https://www.inphonik.com/support/>

- Read our FAQ,
- Contact us for any information,
- Report a bug...

You can also get in touch with us on social networks:

<https://www.facebook.com/inphonik/>

<https://www.instagram.com/inphonik>

<https://www.twitter.com/inphonik>

<https://www.youtube.com/inphonik>

<https://soundcloud.com/inphonik/>



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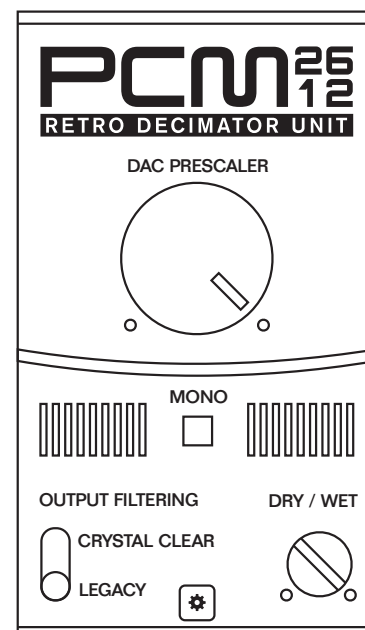


# What is the PCM2612?

The PCM2612 is a software bitcrusher effect plug-in. It is based on the decimation effect obtained with the Yamaha YM2612, best known for being the Sega Genesis / Megadrive video game console's sound chip.

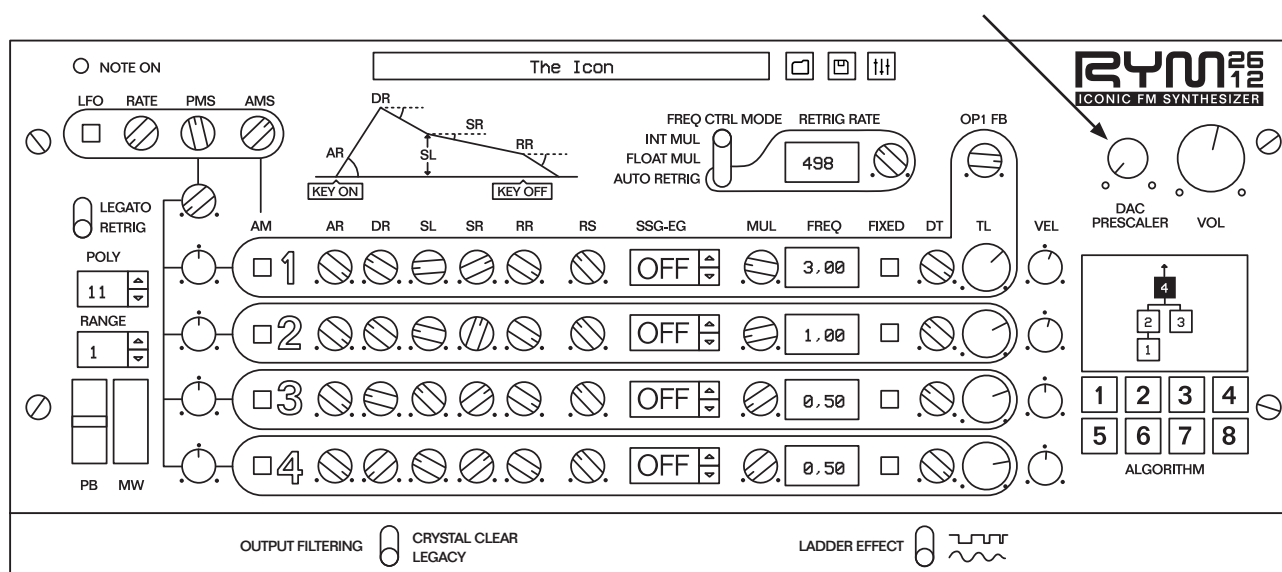
It gives a distinctive 8-bit quantized and aliased effect to any sound you plug into it. On one hand, it adds distortion due to the 8-bit quantization, and on the other hand it adds aliasing due to the resampling.

Also, the PCM2612 can emulate the line-out circuitry of the Sega Genesis Model 1, released in 1988.



## A feature taken from the RYM2612

The 8-bit decimation effect is a feature of our RYM2612 Iconic FM Synthesizer. Since this feature wasn't possible with all DAWs, we chose to design a simple effect plug-in with this function only.



### FINE-TUNING VALUES

To obtain more precise controls with the knobs, once the left mouse button is pressed, press simultaneously the Alt key (or Shift in Reason).

# Controls

## DAC PRESCALER

This big knob is the primary control for the 32 scales of the PCM playback's resampling frequency.



VALUE	FREQUENCY
1	53,667 Hz
2	26,834 Hz
3	17,889 Hz
4	13,417 Hz
5	10,733 Hz
6	8,945 Hz
7	7,667 Hz
8	6,708 Hz

VALUE	FREQUENCY
9	5,963 Hz
10	5,367 Hz
11	4,879 Hz
12	4,472 Hz
13	4,128 Hz
14	3,833 Hz
15	3,578 Hz
16	3,354 Hz

VALUE	FREQUENCY
17	3,157 Hz
18	2,982 Hz
19	2,825 Hz
20	2,683 Hz
21	2,556 Hz
22	2,439 Hz
23	2,333 Hz
24	2,236 Hz

VALUE	FREQUENCY
25	2,147 Hz
26	2,064 Hz
27	1,988 Hz
28	1,917 Hz
29	1,851 Hz
30	1,789 Hz
31	1,731 Hz
32	1,677 Hz

## MONO

The mono button switches between stereo (turned off) and mono (turned on) operation mode. The mono mode sums both left and right channels.

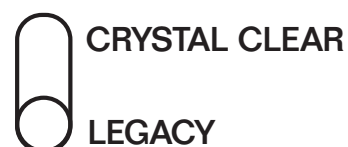


## OUTPUT FILTERING

The output filtering switch gives a choice between two output modes:

- Crystal Clear is a direct digital output. It gives the highest frequencies.
- Legacy is the emulation of the line-out output of the Sega Genesis Model 1. It gives a warmer and rounder sound.

## OUTPUT FILTERING



## DRY/WET

The dry/wet knob allows you to mix between unprocessed and processed sound.

## DRY / WET



# Settings

(all versions except Rack Extension)

Click the gear button on the bottom of the PCM2612 to change the settings.



## DISPLAY ZOOM FACTOR

If the PCM2612's graphical interface looks too small, you can make it bigger.

Scaling factors available: 1x ; 1,5x ; 2x.

## DESIGN

Choose between vertical "Box" and horizontal "Rack" graphical interface.

See "Rack version" section on the next page.

## OPEN SUPPORT PAGE

Click this button to open our support page <https://inphonik.com/support> with your default browser.

## NOTE

The **OPEN SUPPORT PAGE** button has a special function that collects your computer's basic setup information such as:

- Our product information (name and version number)
- Plug-in type (VST, VST3, AU, AAX, etc)
- Your DAW name
- Your display monitor(s) information (resolution and DPI)

This information is used solely for the purpose of improving your user support experience.



## Rack version

The Rack form factor is suited for horizontal displays. It's the same interface that we developed for the Rack Extension version. It features the same controls as the Box version, in a sleek 1U interface.



Rack VST/AU/AAX version



Rack Extension version

## Rack's Back Panel

(Rack Extension version only)



Reason users can enjoy an exclusive feature in the back of the Rack Extension version: the DAC Prescaler CV Input. Press Tab to access it.

# End-User License Agreement

Last updated: March 07, 2018

Please read this End-User License Agreement (“Agreement”) carefully before clicking the “Agree” button, downloading or using PCM2612 Retro Decimator Unit (“Application”).

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This Agreement shall remain in effect until terminated by you or Inphonik.

Inphonik may, in its sole discretion, at any time

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This Agreement will terminate immediately, without prior notice from Inphonik, in the event that you fail to comply with any provision of this Agreement. You may also terminate this Agreement by deleting the Application and all copies thereof from your computer.

Upon termination of this Agreement, you shall cease all use of the Application and delete all copies of the Application from your computer.

Termination of this Agreement will not limit any of Inphonik's rights or remedies at law or in equity in case of breach by you (during the term of this Agreement) of any of your obligations under the present Agreement.

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### **Limitation of Liability**

Notwithstanding any damages that you might incur, the entire liability of Inphonik and any of its suppliers under any provision of this Agreement and your exclusive remedy for all of the foregoing shall be limited to the amount actually paid by you for the Application.

To the maximum extent permitted by applicable law, in no event shall Inphonik or its suppliers be liable for any special, incidental, indirect, or consequential damages whatsoever (including, but not limited to, damages for loss of profits, for loss of data or other information, for business interruption, for personal injury, for loss of privacy arising out of or in any way related to the use of or inability to use the

Application, third-party software and/or third-party hardware used with the Application, or otherwise in connection with any provision of this Agreement), even if Inphonik or any supplier has been advised of the possibility of such damages and even if the remedy fails of its essential purpose.

Some states/jurisdictions do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

### **Severability**

If any provision of this Agreement is held to be unenforceable or invalid, such provision will be changed and interpreted to accomplish the objectives of such provision to the greatest extent possible under applicable law and the remaining provisions will continue in full force and effect.

### **Waiver**

Except as provided herein, the failure to exercise a right or to require performance of an obligation under this Agreement shall not effect a party's ability to exercise such right or require such performance at any time thereafter nor shall be the waiver of a breach constitute waiver of any subsequent breach.

### **Amendments to this Agreement**

Inphonik reserves the right, at its sole discretion, to modify or replace this Agreement at any time. If a revision is material we will provide at least 30 days notice prior to any new terms taking effect. What constitutes a material change will be determined at our sole discretion.

By continuing to access or use our Application after any revisions become effective, you agree to be bound by the revised terms. If you do not agree to the new terms, you are no longer authorized to use the Application.

### **Governing Law**

The laws of France, excluding its conflicts of law rules, shall govern this Agreement and your use of the Application. Your use of the Application may also be subject to other local, state, national, or international laws.

### **Contact Information**

If you have any questions about this Agreement, please contact us.

Inphonik  
84 avenue Daumesnil  
75012 Paris, France  
contact@inphonik.com  
<https://www.inphonik.com>

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The Agreement constitutes the entire agreement between you and Inphonik regarding your use of the Application and supersedes all prior and contemporaneous written or oral agreements between you and Inphonik.

You may be subject to additional terms and conditions that apply when you use or purchase other Inphonik's services, which Inphonik will provide to you at the time of such use or purchase.

## Disclaimer

The Sega and Yamaha brand names are the property of their respective owners and are in no way associated or affiliated with Inphonik and the software PCM2612 Retro Decimator Unit.

Logos of VST, Audio Units, AAX, Rack Extension and iOS are the property of they respective brands.

Protect your ears. Exposing them to high-pressure acoustic levels for a long duration is a severe risk for your audition.

## Credits & Thanks

The PCM2612 Retro Decimator Unit has been conceived, concepted and produced by Mathieu Demange, and co-designed by Mathieu Demange and William Lamy. Visuals and the PCM2612 logo have been produced by William Lamy.

### ACKNOWLEDGEMENTS

For ages, the YM2612 retained attention and efforts of one of the most skilled and passionate reverse-engineering community ever. Many thanks go to Jarek Burczynski, Tatsuyuki Satoh, Stéphane Dallongeville, Nemesis, Shiru, TmEE, Eke-Eke, AamirM, Charles McDonald, Aly James and all the regular people at spritesmind.net and smspower.org, MG The Future, Shnabubula, Joey Luck, Noel Gonzalez, God of Rainbows, Yoann Turpin, ABC du Beatmaking, Ali Ahmet. Many thanks also go to all testers who helped making the RYM2612 a more solid product and also showed invaluable support during development. Their help made possible the PCM2612.

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