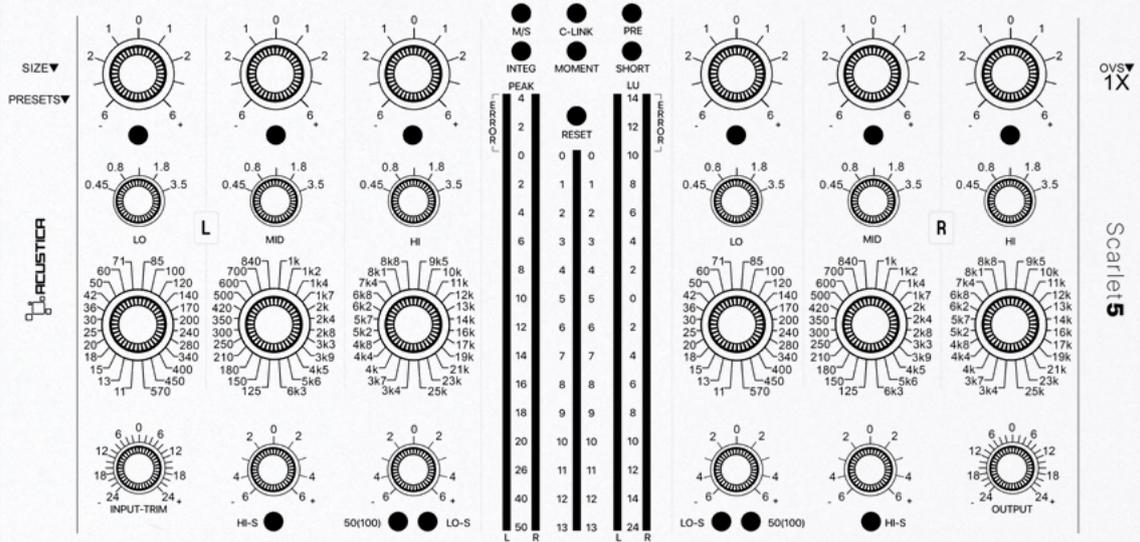
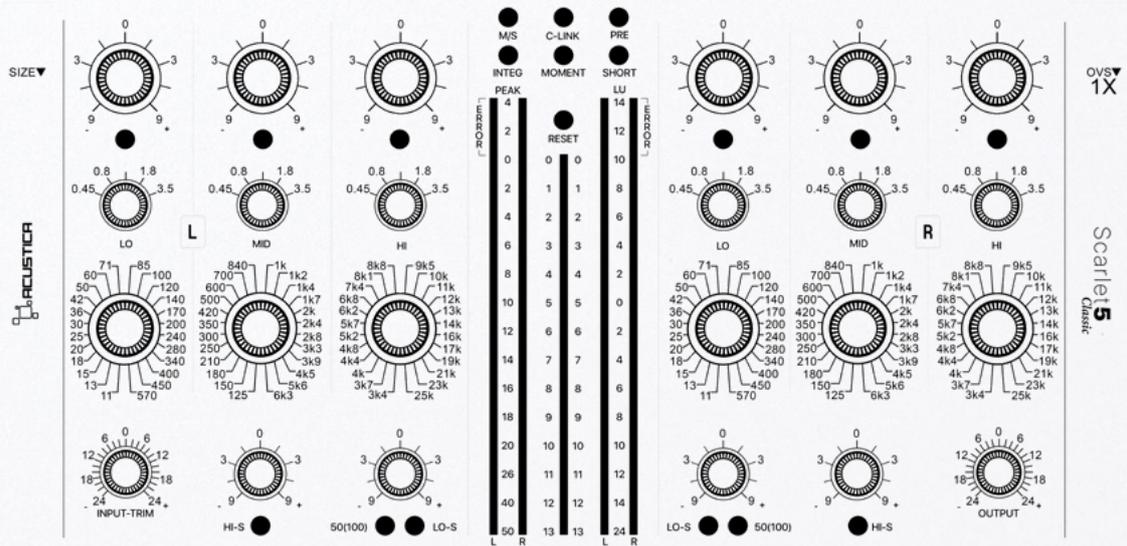


Scarlet5



Scarlet5 EQ



Scarlet5 EQ Classic



Introduction

Welcome to the Scarlet5 suite, a VST/AAX/AU plug-in that emulates two different celebrated mastering devices.

Both are derived from the original '70s designs that were the brainchild of two legendary pioneers considered the most ingenious minds in music recording technology at the time. They joined forces to create the first parametric equalizers to ever appear on the audio market.

This EQ soon became the absolute standard in mastering equalizers. It is surrounded by a kind of mystical aura, as only a few dozen units have ever been made in the course of 4 decades, each of them hand-assembled by the designer himself. For those lucky enough to own one, usually there is no sum of money large enough to persuade them to part with their beloved unit.

The universal appreciation of these machines are wholly justified by the transparency of its sonic action and the quality of the electronic and mechanic components used for its manufacturing: military grade rotary switches, precision resistors, proprietary discrete op-amps, and not a single capacitor on the signal path.

Package Contents

The Scarlet5 suite consists of:
The SCARLET5 EQ
The SCARLET5 Classic EQ

During the modeling process we used the best converters and cables available on the market, we measured the unit in excellent conditions and employed skilled experts in the sampling process, using our self-developed sampling application.

With Scarlet5 you have one of the best, high-quality professional audio software plug-ins in your audio workstation. We spend countless hours developing these no-compromise plug-ins just to give you nothing but the best sound and a 'feel' that is as close to the real hardware to the greatest possible extent. We are confident that this plug-in will help you make more professional mixes... because: Sound First!

Scarlet5 suite comes in a "Standard version" and an alternative "ZL*" version which operates at 'zero latency' and is thus suitable for use during tracking, at the cost of extra processing load. (Details at Chapter 7.)

Acustica Audio

Acustica Audio is a leading company specializing in analog hardware virtualization.

Since the birth of Nebula in the summer of 2005, there has been an active collaboration between forward thinking developers, beta testers, audio engineers and equipment samplers from around the world.

The research and development has progressed through many stages and employs many innovative processes and technologies as yet unheard of in other products or devices.

The company's goal is to provide the most authentic reproduction of sampled vintage gear and other high-end hardware devices, using the revolutionary technology Vectorial Volterra Kernels Technology (V.V.K.T.) without the negative artifacts created by the current convolution technology.

After many years of fruitful labor, this creative forward thinking group has evolved into a team of experts in knowing what it takes to serve the "best of both worlds" (digital & analog).

Acustica... Audio Renaissance

What's new in Scarlet 5?

We have taken the Scarlet suite to new levels with the release of 5th version, incorporating new features that enhance its accuracy integrating it with our cutting-edge Hyper technology.

Most importantly, we are introducing a brand-new version of **Scarlet 5 Classic** (replacing the previous version), which has undergone a complete resampling to provide you with a state-of-the-art tool, ensuring the highest possible quality for your master.

New features:

- Improved audio quality thanks to the oversampling.
- New "Hyper" technology.
- New SCARLET 5 CLASSIC plugin version.
- Numerical value parameters.
- Various optimizations and graphical improvements.
- Resizable interface.

Hyper technology

Thanks to our new Hyper and Hyper2 technology, we can now deliver even more realistic and convincing compression, saturation, filters, and preamp signals in the digital domain by emulating the sound of analog recording equipment with lower CPU consumption and improved stability.

What' is a ZL plugin?

Acustica plugins come in two versions: ZL (zero latency) and a regular version.

While the ZL version does not introduce any latency to your system, the standard version does. This buffer varies in size for each plugin and helps reduce the CPU and system load of your computer significantly. We recommend that you use a ZL instance when tracking.

Basically, both plugin instances are identical, but the current Acqua engine can work either with or without an audio buffer.

The idea behind a ZL instance is to give you the option to run an Acqua Effect with minimal latency, which is helpful for tracking or direct monitoring.

How to download, install, and authorize your products

Acustica Audio products can be downloaded, installed, and authorized using the Aquarius Desktop application.

The Aquarius Desktop application is a free standalone application that will manage every step in an automatic way without user intervention. Download Aquarius Desktop Application:

www.acustica-audio.com/pages/aquarius

How to download a product in Aquarius Desktop Application

To download a product using the Aquarius Desktop application go to the purchase page and select the product and format (VST2, VST3, AAX, AU) to install.

In case you can't find your product on the purchase page use the search page.

How to install a product in Aquarius Desktop Application

The installation is done automatically by the Aquarius Desktop application after the download. As the Aquarius Desktop application creates a temporary file of the downloaded products, known as the stage area, at the moment you want to reinstall a product it will not be necessary to download it again.

How to authorize a product in Aquarius Desktop Application

The authorization is done automatically by the Aquarius Desktop application after the product installation. You can manage your authorizations using the Aquarius Web Service. Click [HERE](#) or a complete installation user guide

System Requirements

Modern computers are powerful enough to run many plugins at once. However, our technology requires more resources than algorithm-based software, so we recommend optimizing your system to work with high CPU loads and low audio latency. Before starting the installation process, please confirm that your system meets the minimum system requirements to run the plugins please consult the following link: <https://app.box.com/v/AASYSTEMREQUIREMENTS>

Technical information & compatibility

- Supported formats: VST2, VST3, AAX, and AU.
- Available sample rates: 44.1, 48, 88.2, and 96 kHz.
- Windows 10 and 11 compatible.
- macOS 10.15 (Catalina) to macOS 13 (Ventura) compatible.
- Intel, AMD, and ARM compatible.
- Apple Silicon native (Rosetta not supported).

Customer care

To contact Acustica Audio, always use the single point of contact, which is this helpdesk portal: <https://acusticaudio.freshdesk.com/>

We do not provide official assistance via social networks, public forums, or email accounts. For troubleshooting and issue reporting, check the available solutions in the knowledge base.

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1. Operation

The Scarlet5 represents the natural evolution of our previous Scarlet plug-in. To further meet the needs of our loyal mastering engineers, we are proud to release a great suite composing of 2 different plugins: SCARLET5 EQ and SCARLET5 CLASSIC EQ.

This bundle offers more consistency, greater flexibility and a high level of sonic excellence, superior transient response with extremely low noise and distortion compared to the previous version making this bundle the perfect tool for mastering purposes.

1.1. Scarlet5

-Scarlet5 is a dual-mono EQ.

Each of its 2 channels (LEFT-RIGHT) can be independently adjusted, or, alternatively, each control can be linked with its counterpart on the other channel by engaging the control-link button.

Scarlet5 includes:

-5 equalizer bands, the first and the last bands also offer a shelving response.

-the Low shelf comes with a choice between 2 different operating frequencies (50 or 100Hz).



Scarlet5 Equalizer

-Low, Mid and High have a bell-shaped response and they are equipped with an adjustable gain level from +6dB to -6dB a frequency knob (24 stepped values for each band) and bandwidth values (from 0.45 to 3.5).

-This EQ is also equipped with a complete meter section

-A MID-SIDE control to switch from L/R over to M/S mode, which is key to equalize Mid (center) content in a different fashion than the Side content of a stereo program.

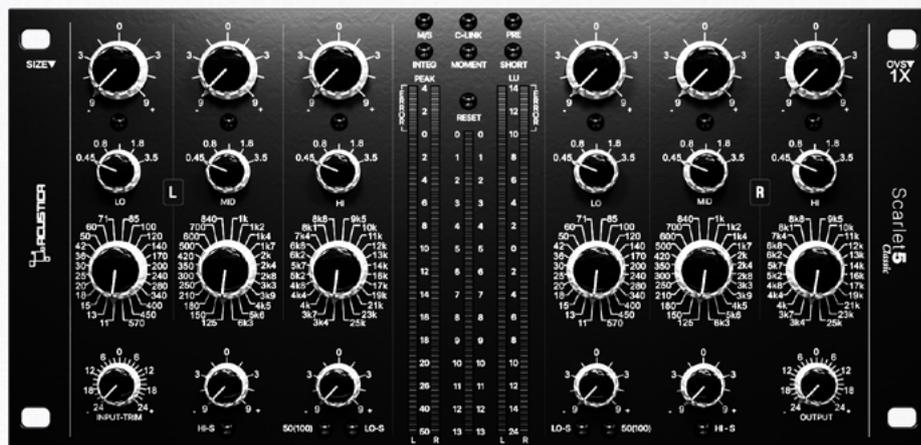
-A separate preamp stage emulation is available, as well.

Having such a large number of overlapping frequencies for each band, a selector for the Q, an exclusive control of gain adjustment at 24 positions per band and buttons for activating the control link and the MID-SIDE make this plugin a definitive tool, even for the most demanding mastering engineer.

1.2. Scarlet5 Classic

Scarlet5 Classic EQ is the result of the sampling of another unit from the same manufacturer. A piece of hardware considered the main reference as well as the absolute standard in mastering. Our emulation is absolutely faithful to the original unit in which we kept the original features trying to preserve the sound of the device without any kind of trick or artifact.

The most amazing feature of this parametric EQ is its musicality. Unlike other parametric EQs, which can have just as much of a negative, as well as a positive effect on your audio, this unit is hard to make sound bad. The EQ has a pleasing sound of its own, its high transparency notwithstanding, the high frequencies are defined and silky. Our plugin version aims to give you the same analog nature of the original unit.



In terms of functionality, our Classic emulation is characterized by the same controls as the previous version (SCARLET4 EQ).

It is a 5 band dual-mono EQ. But the main difference being, compared the standard version, is that the gain/attenuation ranges for each EQ band is different. In fact, the gain control of the SCARLET Classic EQ is not linear and has an excursion ranging from +9 dB to -9 dB.

So, which of the two plugins included in this suite to use? The decision must be made by the user on a case per case basis. The engineer's final judgment should always depend on his/her ears and imagination.

NOTE

With the release of 5th version, we released a brand new version of Scarlet 5 Classic (replacing the previous version), which has undergone a complete resampling to provide you with a state-of-the-art tool, ensuring the highest possible quality for your master, incorporating new features that enhance its accuracy and integrating it with our cutting-edge Hyper technology.

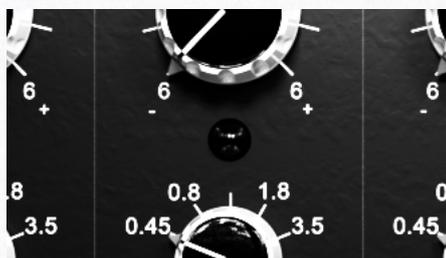
Below is an explanation of the Scarlet5 suite controls. The controls that differ between the standard version and the classic version will be highlighted and we will add a NOTE to specify any differences.



1.3. Controls

POWER BUTTON

This button activates the relevant EQ band.



INPUT TRIM

This function allows for a “one knob” internal gain staging control by automatically linking input and output gain stages following an inverse law.

The control sets the input level from -24dB to +24dB, and adjusts the internal operational level of the plug-in. Note that this is different from a standard input gain control due to the linked output gain stage, which always ensures that whatever gain change is introduced at Scarlet5's input, the output level is automatically compensated so that there's no perceived level change.

NOTE: when the pre-amp section is bypassed, the Input Trim control has no effect on the plug-in.



OUTPUT

This knob is an output gain control ranging from -24dB to +24dB.



PRE BUTTON

Pressing this button activates the PREAMP of the plug-in. It precisely emulates the phase, frequency response and harmonic distortion of the corresponding circuit.

C-LINK BUTTON

This button links the controls of left and right channels.

M/S BUTTON

This button allows you to enable the MID-SIDE configuration of the plug-in. When bypassed the plugin is in the standard LEFT-RIGHT operational mode.



FREQUENCY CONTROL

Each of the 5 equalizer bands can be individually enabled.

The first and last band can also give a shelving response; the Low shelf comes with a choice between 2 different operating frequencies (50 or 100Hz).

You can enable the Low Shelf filter by pressing the LO-S button. The default cut-off frequency is fixed at 50Hz, press the 50(100) button to change the cut-off to 100 Hz. You can enable the High Shelf filter by pressing the HI-S button.

The other 3 bands (Lo, Mid, Hi) have a bell-shaped response.

Available values for each band are:

- . Low Bell Filter from 11Hz to 570Hz (24 steps)
- . Low Shelf at 50Hz or 100Hz
- . Mid Bell Filter from 125Hz to 6.3kHz (24 steps)
- . High Bell Filter from 3.4kHz to 25kHz (24 steps)
- . High Shelf Filter at 10kHz (fixed frequency)

NOTE: Scarlet5 EQ Classic is equipped with the same frequencies of Scarlet5 EQ version.



GAIN CONTROL

Gain control boosts or attenuates the chosen frequency band.

It ranges from -6dB to +6dB. **NOTE:** Scarlet5 EQ Classic has a different gain range from -9dB to +9dB for each band.



Q BUTTON

The Q button modifies the bandwidth of the Low Bell, Mid Bell and the High Bell frequency bands. The Q control is available for each parametric peaking filter for the LEFT and the RIGHT channel. It toggles between Wide (0.45) and Narrow (3.5).

Not included in Low/High Shelving filters.



METERS

“Meters are very useful tools because they allow an engineer to both listen and ‘see’ what happens at the level of the sound. There are several types of meters with different purposes, among which meeting some technical standards required on a worldwide basis and fully compliant with current references.”

Thanks to CORE 14 we have introduced a new metering engine (EVFb) and significant updates.

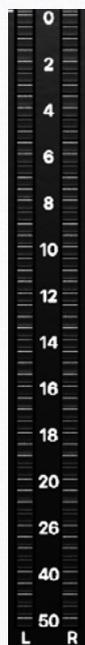
Scarlet5 and Scarlet5 Classic are equipped with the same multivariable output meters and relative controls.

Details:

- The Reset button will reset the meter and descriptor history.

- The Multiple measurement modes (METERS type):

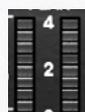
PEAK meters



TRUE PEAK (LEFT-RIGHT)

These measure the maximum absolute level of the signal waveform in the continuous time domain, measured per ITU-R BS 1770.

Its units are dB TP meaning decibels relative to nominal 100 per cent, true peak.



TRUE PEAK MAX (LEFT-RIGHT)

This meter type (LEFT-RIGHT) shows the True-peak Max parameter measured in dBFS. It's defined to 1 dbTP measures with meter compliant with both ITUR BS.1770 and EBU Technical Document 3341. It's a modern True peak which simulates the behavior of an analog converter.

NOTE: to refresh the value displayed using this meter type a RESET is required using the relative button/control. **IMPORTANT:** this meter type measures exactly the average peak value, not properly the maximum peak value.

LUFS meters



1. LUFS - Momentary Loudness (M)

These meters type (LEFT-RIGHT) measure the loudness of the signal as perceived by the human ear, according to today's standards (EBU R 128). These are extremely accurate at displaying the perceived loudness of audio material, it was introduced primarily to outline broadcast standards to keep the perceived volume of the different shows and adverts the same. To ensure that the difference descriptors are measured and reported correctly and not mixed up with other measures, any meter that measures according to R 128 must have an "EBU MODE".

The first measurement parameter for EBU MODE is the Momentary Loudness, it measures the loudness of the past 400 Milliseconds.
- Press the MOMENT button on the GUI plugin to enable these LUFS (LU) meters type (LEFT-RIGHT)

NOTE: INTEG-MOMENT-SHORT buttons are mutually exclusive, so they cannot be engaged at the same time.



2. LUFS - Short Term Loudness (S)

These meters type (LEFT-RIGHT) the loudness of the signal as perceived by the human ear, according to today's standards (EBU R 128).

These are extremely accurate at displaying the perceived loudness of audio material, it was introduced primarily to outline broadcast standards to keep the perceived volume of the different shows and adverts the same. To ensure that the difference descriptors are measured and reported correctly and not mixed up with other measures, any meter that measures according to R 128 must have an "EBU MODE". The first measurement parameter for EBU MODE is the Short Term Loudness, it measures the loudness of the past 3 Seconds.

- Press the SHORT button on the GUI plugin to enable these LUFS (LU) meters type (LEFT-RIGHT)

NOTE: INTEG-MOMENT-SHORT buttons are mutually exclusive, so they cannot be engaged at the same time.



3. LUFS - Integrated Loudness (I)

These meters type (LEFT-RIGHT) measure the loudness of the signal as perceived by the human ear, according to today's standards (EBU R 128). These are extremely accurate at displaying the perceived loudness of audio material, it was introduced primarily to outline broadcast standards to keep the perceived volume of the different shows and adverts the same. To ensure that the difference descriptors are measured and reported correctly and not mixed up with other measures, any meter that measures according to R 128 must have an "EBU MODE". The third measurement parameter for EBU MODE is the Integrated Loudness (Also called Programme Loudness) that indicates how loud the programme is on average, and is measured over entire duration of material.

- Press the INTEG button on the GUI plugin to enable these LUFS (LU) meters type (LEFT-RIGHT)

NOTE: INTEG-MOMENT-SHORT buttons are mutually exclusive, so they cannot be engaged at the same time.



4. LOUDNESS RANGE (LRA)

This MONO meter displays the Loudness Range (LRA) value. Namely, it measures the variation of loudness on a macroscopic time-scale. Essentially, LRA is the difference in loudness level between the soft and loud parts of a program so it is defined as the difference between the estimates of the 10th and 95th percentiles of the distribution.

The lower percentile of 10%, can, for example, prevent the fade-out of a music track from dominating the loud sound, such as a blast in a movie, it cannot by itself be responsible for a large Loudness Range. The computation of the LRA is based on the statistical distribution of measured loudness level using a sliding analysis window with a length of 3 seconds for integration.

SIZE

Adjust the whole plugin-GUI size. Choose between 3 magnifications (1x - 1.5x - 2x) from the top right SIZE drop-down menu. Once the desired size has been selected, the plugin must be removed and re-loaded in order to apply the new size.

New instances of the same plugin will open with this size.

OVERSAMPLING (OVS) MENU

This menu allows you to change the oversampling rate to improve the audio quality, increasing the sampling frequency of the plugin and minimizing aliasing artefacts:

- The 1x mode bypasses the oversampling functionality.

- The oversampling mode increases the sampling frequency of the saturator being processed by a fixed multiple of 2x 4x 8x.

2. Presets Management

The SCARLET5 includes AI (Artificial Intelligence) Presets.

By clicking the “PRESET” drop down menu on the left hand side of Scarlet5 you can select a preset from the displayed list. You can choose between several presets.

You may find a detailed list of the presets in the following Chapter “AI PRESET LIST & CREDITS”.

A normal preset would simply load the same settings each time you use it. Our AI Presets are based on a huge amount of data sampled from real-life mixing sessions by renowned engineers.

Any AI Preset will assess the audio being fed into the plug-in and then, based on the data stored in its memory, it will automatically modify the EQ settings, emulating what the referenced engineer would have done in the same situation.

Here’s the procedure to obtain the best results:

- loop a short section of audio that you deem is most significant for the AI evaluation. The analyzed time frame is quite short (only a couple of seconds) so different points in the audio will obviously produce different results;
- click the preset you would like to use;
- sit back and watch as the eq settings change.

This brand new technology works very well on individual tracks and groups, whereas results on the master bus may vary.



01. AI OLEG YORSHOFF

Preset Sampling Technique (used in the AI capture phase)

- General Purpose EQ suitable for individual audio sources, group busses and Master bus

Oleg “Yorshoff” Yershov – mixing and mastering engineer, pro audio journalist and respected audio mentor and educator from Ukraine. Former classical piano player, then heavy metal touring vocalist Oleg now focuses on studio work for different artists producing different genres and styles of music – from synth-pop and Indie to EDM, atmospheric black metal and countless Hip-Hop artists all over East Europe.

In 2013 Oleg launched YorshoffMix, a Youtube-channel with the aim of helping Russian speaking audio engineers to grow and become better educated in music production, mixing and mastering. In addition, Oleg writes for Future Music Russia magazine.

Yorshoff Mix | Mixing & Mastering Services
www.yorshoffmix.com/

02. AI FRANCESCO DONADEL CAMPBELL

Preset Sampling Technique (used in the AI capture phase)

-EQ for Master Bus purposes (various TV series, commercials and promos)

Francesco Donadel Campbell was born in Padua, Italy, on 17 July 1972. In his early teens he developed a clear interest in music and began playing the guitar and the electric bass. In later years his passion for the world of music and its more modern genres pushed his own interests towards high fidelity, digital audio and video. In particular, computer-related music, CD-R burning and the digitization of his extensive VHS cassettes archive. Not being allowed to listen to music at high volumes until late at night, he started to share his love of the world of hi-fi and especially professional headphones using various brands and models over the years.

Francesco's love of Japanese cartoons led him in 2002 to assume the role of quality control supervisor and DVD project technical coordinator at Shin Vision, a company specialized in the commercialization of products related to Japanese animation.

From 2005 to 2013 he covered the role of coordinator and quality control supervisor at SoundnVision, a company based in Milan well placed in the field of video post-production. His love for precision and his natural understanding of issues related to the quality of the video masters for broadcasting and for marketing on DVD led him to become head of the department of digitization and digital video restoration using the Archangel Real-time HD & SD Video Restoration software by Snell & Wilcox. He has also been an audio mastering engineer since 2004. From 2014 to the present day he is the senior audio and video mastering engineer for Yamato Video Srl, the most important company in Italy that publishes and sells Japanese animation on Dvd and Blu-Ray.

HDPHONIC

www.hdphonic.com

The next presets will be available within few weeks. Stay tuned!

03. AI MAX PAPARELLA

Preset Technique (used in the AI capture phase):

- EQ for Master Bus purposes

Max Paparella - born in 1975, is a Hammond organist with a great passion for vintage musical instruments. For over 20 years in the music industry he has collaborated both in Europe and in the USA, working on the creation of numerous albums as a composer, musician, remixer and ghost producer.

In 2010 he founded the Groove Sound Design studio, starting a solid partnership with the guitarist and producer Valerio Fuiano (member of Mind Music Labs in Sweden), working for singers, artists and record labels on productions as a mixing & mastering engineer.

In 2011 he became a member of AES (Audio Engineering Society). In 2014, as part of his professional training, he took two courses for mastering engineering at the SAE Institute in the UK, passing both with full marks (100/100).

He has been working as a mastering engineer and musician with many record labels such as BMG Production Music (UK), Good Looking Records (UK), Cabana Recordings (USA), Selekt Records (USA), IRMA Records (IT).

Groove Sound Design

<https://www.groovesounddesign.com/>

04. AI ALL

The “Super Experience” AI Preset it’s the result of combined learning by ALL the sound engineers who have worked for this intense project until now.

NOTE: the shelves filters are temporarily disabled (at the position calculated by AI) because they may be too invasive.



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