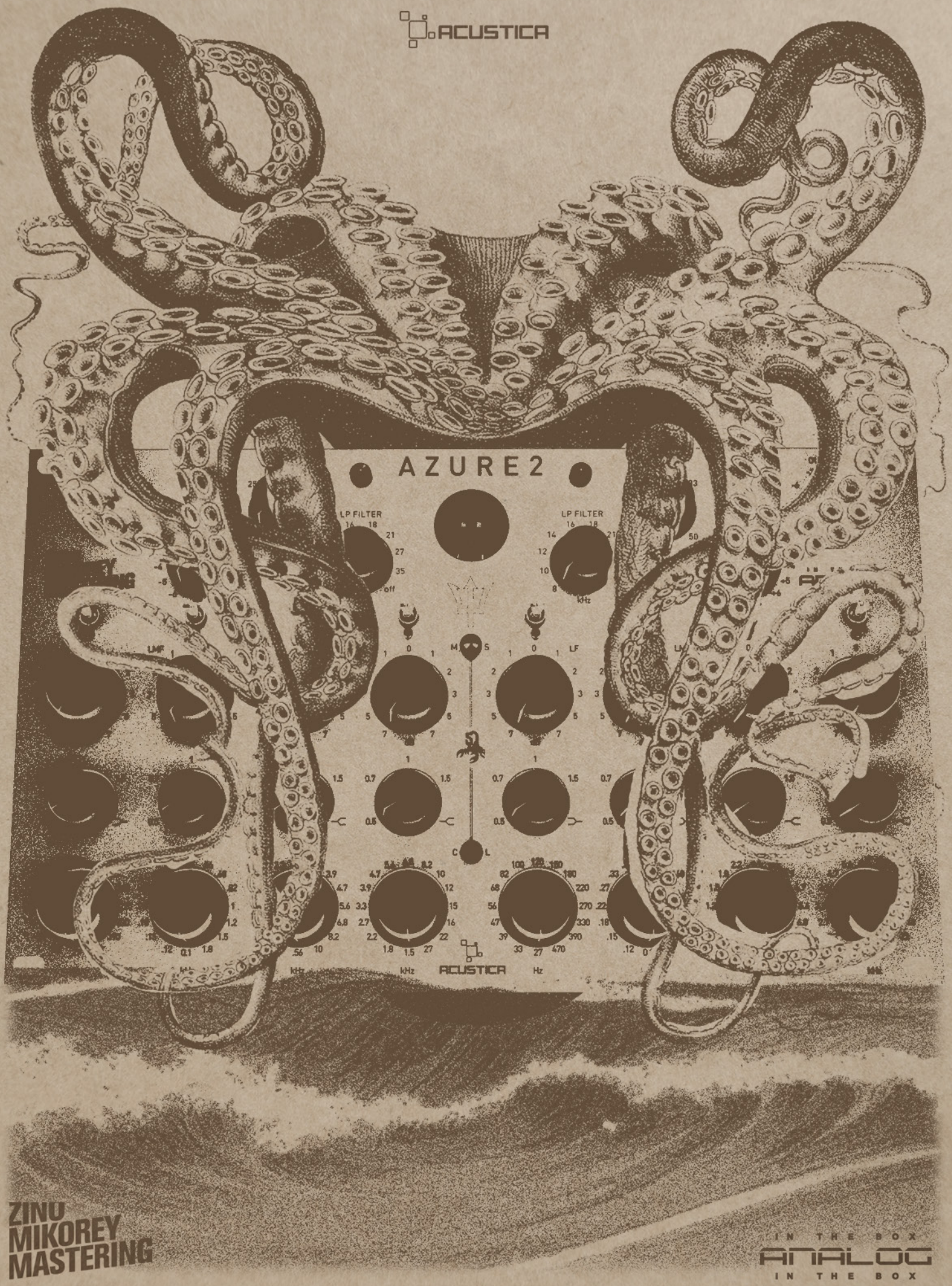
ACUSTICA



ZINU
MIKOREY
MASTERING

IN THE BOX
ANALOG
IN THE BOX

Acustica and Zino Mikorey present:

AZURE2

A Passive Mastering Equalizer

LODI - Acustica - 2019
BERLIN - Zino Mikorey Mastering - 2019
BERLIN - Analog In The Box - 2019

OVERVIEW

Acustica is excited to present AZURE2, a zero-compromise mastering solution!
Due to its classy tone and unusual flexibility Azure will become an indispensable tool when you mix and master!

Thanks to Mirko Reimer alias Analog in the Box (www.analoginthebox.com) the Acustica team called on Zino Mikorey (www.zinomikorey.com), one of most celebrated Mastering Engineers in Europe to mark the birth of an exciting project for all of us.

This beauty of a plug-in delivers the sound of a custom made vacuum tube passive mastering equalizer and the most accurate digital representation of Zino Mikorey's holographic three dimensional sound to date.
Each component of the signal chain was carefully selected to give you the fidelity of Zino's state of the art mastering studio.

INTRODUCTION

Azure is a faithful emulation of a passive hand-made equalizer characterized by tube make-up stages and the finest transformers - ideal for mastering.
The transparency and three dimensional quality of the original product is unmatched in the industry.
The life it can breathe into mixes, vocals and instruments is something you need to hear for yourself to explore it's possibilities.
Compared to similar designs it sounds more "like a record" and it's transparency makes it possible to be used on all kinds of genres, from classical to deep techno.
Explore the possibilities shifting sounds around in the 3D image, by \creating depth and width that never sounds processed or on top of the music.

Let's explore some of the primary features of Azure2...
The plugin captures even the smallest of the sonic details and behavior of the original unit.
While having the tone and the sound purity of passive designs, Azure has precise sound-shaping capabilities with a Q control available for all bands.
Both stereo and mid-side operational modes are available.
Azure also truthfully reproduces the dynamic "transformer sound" of the original design as well as the characteristics of Zino's signal path.
One thing that makes Azure2 different from the hardware is the summing topology of the bands. Azure reacts more like a conventional equalizer where all bands are in series, always giving you the exact level of boost or cut dialed. This makes for an easier evaluation of the applied processing when compared to the passive parallel hardware design.
Prepare to change your perception of your favorite EQ :-)

Azure2 comes in a "Standard version" or an alternative "ZL*"version which operates at * zero latency and is thus suitable for use when tracking, at the cost of the extra processing resources. (Details at page 10)

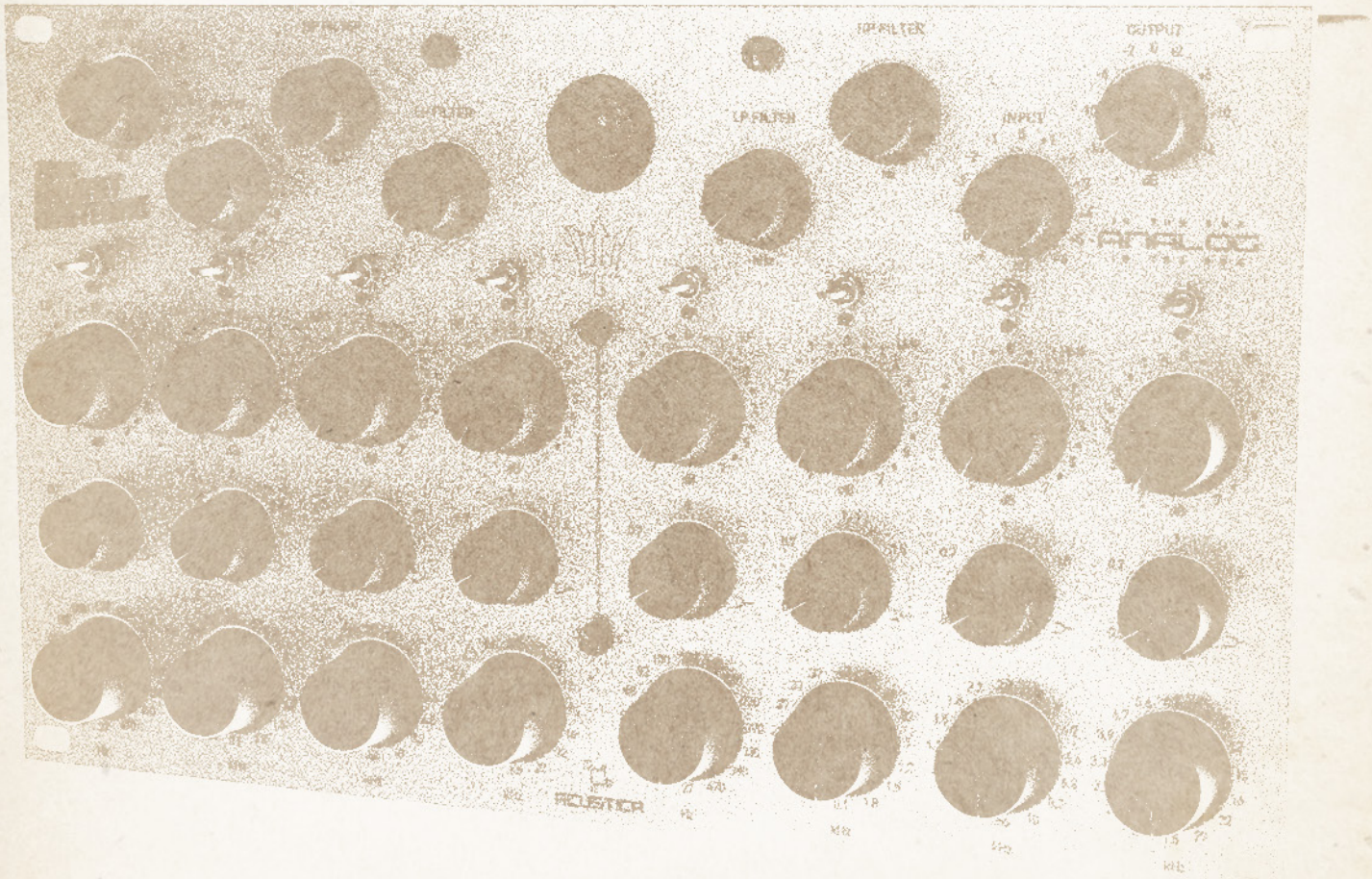
ACUSTICA AUDIO

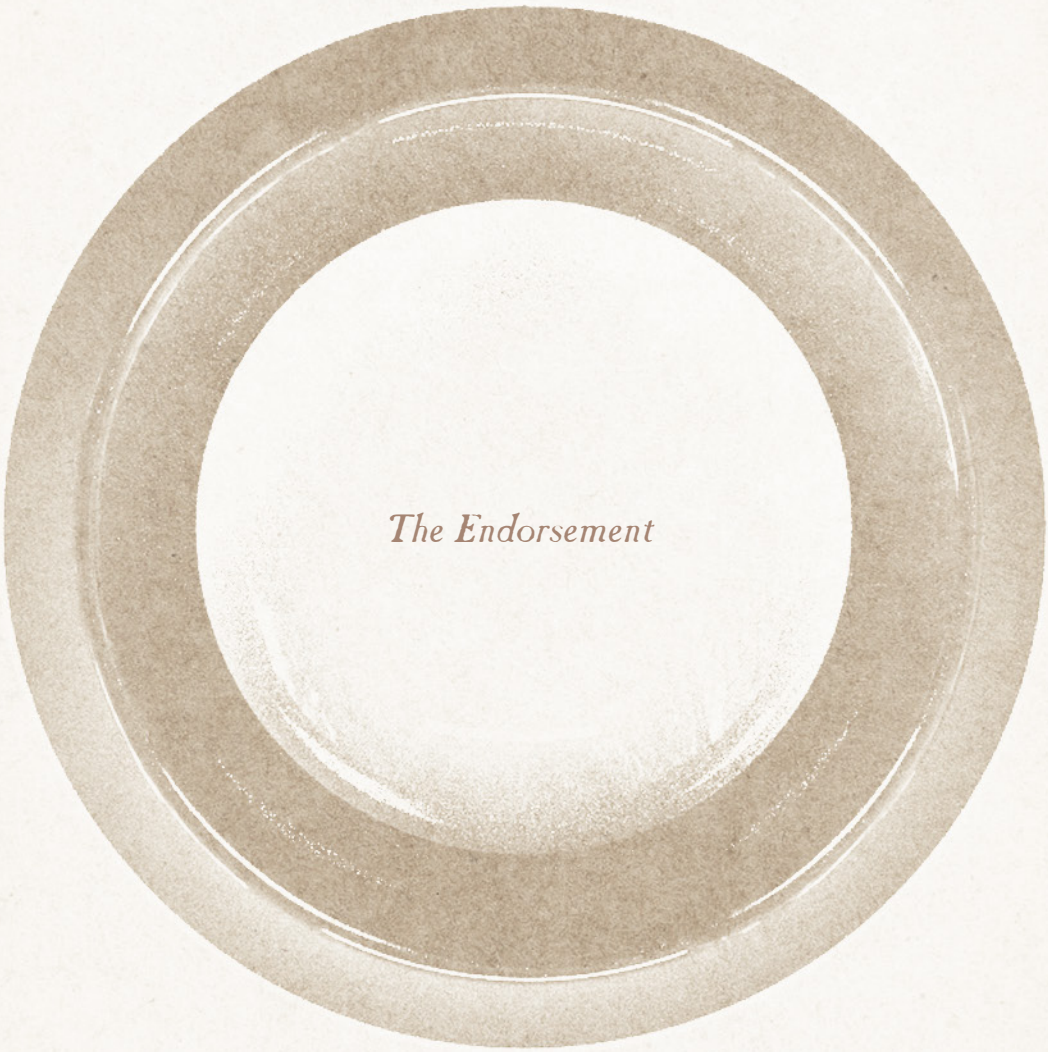
Acustica Audio is a leading company specializing in analog hardware virtualization.

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





The Endorsement

ZINO MIKOREY MASTERING

Zino Mikorey is a platinum awarded Mastering Engineer who has worked on thousands of releases by artists like Casper, Milky Chance, Left Boy, Alexandra Stan, Lemur, Decco ft. Mapei, Sohne Mannheims, Al Pride, Elaiza, Sportfreunde Stiller and T der Bar.
He is also continuously creating and producing audiophile Adverts for outstanding brands such as BMW, Vodafone and Porsche.
Over the last 18 years he has worked on multifaceted music and film projects from Norway to Australia & the UK to China.
After learning the Piano and Violin throughout his childhood, playing in several bands and a little orchestra, he started building up his first studio at the young age of 14.
The next 7 years consisted of producing hundreds of songs for various Hip-Hop and Soul groups and extensive touring.
When he was 21 he studied at SAE Munich, graduating first in his class and receiving a scholarship to study as a Bachelor of Recording Arts in Australia.
Moving to Berlin a couple of years ago gave him the freedom to focus on mastering and advertising only and celebrate his passion for perfect sound every day.
The clarity, punch, depth as well as the musical finesse and holographic three-dimensional quality of his masterings have made him a secret tip to customers all around the world.

www.zinomikorey.com
Forster Strasse 5
10999 Berlin

ANALOG IN THE BOX

We believe that the Volterra Kernel series inspired technology used by Acustica Audio is the key to more analog sounding mixes in-the-box.
Acustica Audio has stated that they focus on improving their technology, but not developing commercial libraries.

AITB is a leading developer of Nebula libraries and plugins that provide a true analoge sound of outboard classics.
Mirco Reimer was one of the first beta testers of Acustica Audio's Nebula plugin. Since 2005 he has been following the evolution of Acustica Audio & Nebula. He sampled many of the core programs in the Commercial libraries that are included with Nebula (for ex. StateOfLogicEQ, DanishEQ, Analog Channel....).
Some popular libraries AITB offers and are well known for are:
The Mammoth EQ, DOC FEAR EQ, the Germanos EQ Collection, APEQ Collection, EAR Reverbs, Phonocamptica Reverbs and last but not least the Tank Verb collection.
www.analoginthebox.com - ...the key to more analog sounding mixes.

www,analoginthebox.com
Mirco Reimer
Greifswalder Str. 150, 10409 Berlin, Germany
Phone: +49 (0)1578 8502 333

TECHNOLOGY

Our technology provides seamless real-time emulations of pre-amplifiers, equalizers, compressors, reverbs, multi-effects, stomp-boxes, cabinets, microphones and tape emulations, on Intel based machines, both for Windows and OSX. The Acustica Acqua Engine is a combination of multiple advanced technical processes that are unique to Acustica Audio.

Effects devices can be successfully sampled without further editing or adjustment, and then immediately processed and reproduced via the same engine, where the sampled data is stored and available for recalling, loading, saving, and advanced editing when desired. The quality of reproduction of sampled sources is nearly indistinguishable from the originals.

The following techniques are merged into a single model. Nonlinear convolution: The Volterra theorem is applied as a complete re-thinking, replacement, and generalized substitution of the convolution algorithm that is commonly used in audio applications. Accurate sampling, processing, and reproduction of up to 9 harmonics is possible with our proprietary technology.

Nonlinear convolution, dynamic Volterra series, and time-varying models are just some of the state-of-the-art features that the Core Acqua Engine offers.

Support is provided directly from the R&D Team that is continuously developing the engine. Workshops and project-specific learning sessions can be organized for your team. The Core Acqua Engine is available with a diverse stand-alone library, ready for inclusion in 3rd party products.

Vectorial Volterra Kernels Technology (V.V.K.T.): Volterra kernels are stored in tree data structures (managing up to 100,000 elements in real-time using a CPU Pentium IV 3 GHz). The Acqua Engine is capable of implementing a list of modules commonly used in audio synthesizers (LFO, envelope followers, dynamic modules, FUNS). Multiple combinations of these processes may be applied to control sources and destinations.

Time Varying Models (T.M.V.): A collection of kernels collect data using an advanced sampling technique, creating a multi-dimensional snapshot of a nonlinear/time-varying system. Multiple recordings are interpolated in order to mimic the time evolution and response to external variables such as user parameters and input/output assessments (e.g. time-varying cyclic effect processors, stomp-boxes, digital multi-effect units).

More info about our technology can be found at the following link: http://www.acustica-audio.com/pages/engine

CORE 13

Azure2 is based on our Core 13 engine:

- NEW: Our new Core 13 engine improves on the previous versions by introducing our new VLA™ technology (Vector Loading Acceleration), which makes the response of the plugin much faster;

- Upgraded SASM (Symmetric & Asymmetric Saturation Modeling). A high-performance saturation algorithm;

- Introduction of new post-production sample de-noising tech for cleaner deconvolved impulses called STT (Super transient technology);

- Full compatibility with Client/Server architecture integrated by default in Acqua plugins;

- Engine optimization introducing a new highly efficient algorithm. This innovative technique is applied to all the deconvolved impulses for further de-noise processing and subsequent elimination of any incorrect low-level behavior (including the so-called "echo bug"). Core 13 allows performance improvements for each plug-in of the Acqua Effects series, while at the same time preserving all the features already supported in previous CORE upgrades.

WHAT IS A ZL INSTANCE FOR?

Acustica Audio's plug-ins come in two versions: ZL (zero latency) and normal (non ZL). While the ZL version does not introduce any latency to your system, the standard version does.
This buffer varies in size for each plug-in and helps to significantly reduce the CPU and system load of your computer. For this reason we recommend that you use a ZL instance whilst tracking.

Keep in mind that anything that can reduce the CPU load on your system should be considered. For example the track count of your session, the number of plug-in instances used, sample rate, etc. You could also consider the use of direct monitoring or double the buffer/hybrid audio engine in your host if available.

Basically both plug-in instances are identical but the current Acqua engine can work with a long audio buffer or without any audio buffer. The instance without audio buffers, "ZL", or zero latency, do not have any audio buffer pre-loaded, and will process the audio without any delay, so at the same time the CPU load will be higher compared to the standard non ZL instance. The idea behind a ZL instance is to give users the option to run Acqua Effect products with minimal latency, which is useful for direct monitoring for example.

PERFORMANCE CAUTION

In order to maximize performance and usability of Azure2 on your computer, we suggest you follow some precautionary rules that will help you save precious CPU cycles.

- First of all, set your buffer size setting as large as possible. There is generally no specific reason for using a low buffer size setting during mixing or mastering sessions. Increasing buffer sizes (hence also latency) highly decreases required CPU power.

- You should also consider only using the necessary features.

We do not ensure the complete absence of bugs or the perfect operation of the product.
Before purchasing, we suggest you download the Trial version to verify the behavior of the plug-in with your system.
Trial products are fully-functional versions of the relative commercial plug-in. The trial period expires 30 days after activation.
We do not take any responsibility for misuse of the product, or collateral problems derived from it.
Normally the Early Access period ends within 30 days from the publication on the product page but this period may vary at our discretion.
This manual includes a description of the product but gives no guarantee for specific characteristics or successful results.
The design of our products is under continuous development and improvement.

Technical specifications are subject to change.

SYSTEM REQUIREMENTS

Azure2 is one of a growing number in the Acqua Effects plug-in product line. Acustica Audio has been working on high-quality, analog hardware device software modeling for over eight years. The audio rendering engine, Acqua, embodies state of the art, sample-based products, and has set a new quality standard in the professional audio plug-in market.

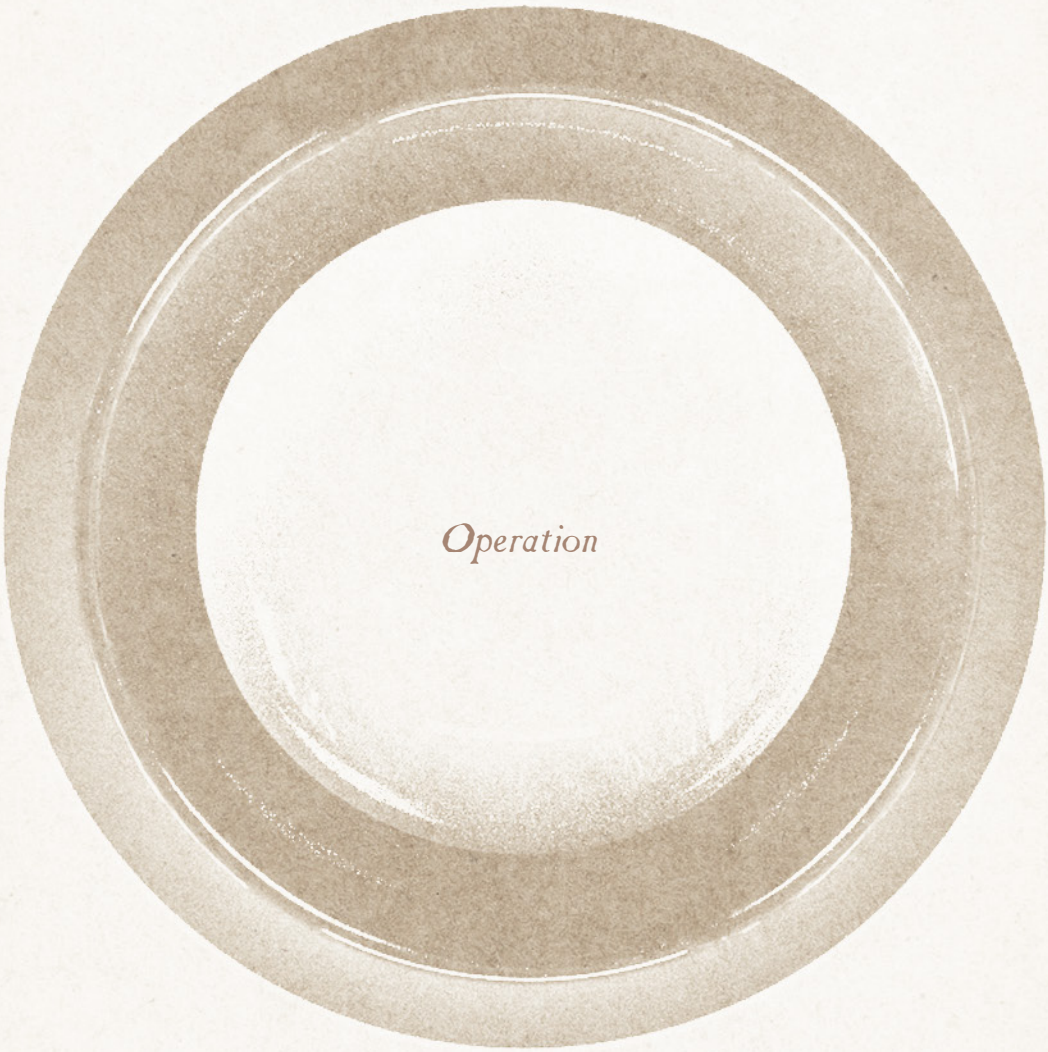
Acustica Audio, in a move that is bold, even for a cutting-edge company like us, has sampled something quite remarkable and we are now bringing it to you in the form of a groundbreaking and exceptional sounding Acqua plug-in. Of the current software plug-ins available on the market, none are based on sampling, and none come close to the sound of Azure2. Azure2 is based on our upgraded technology that uses a new, extremely fast engine.
During the modeling process we used the best converters and cables in existence, we measured the units in excellent conditions, and employed skilled experts in the sampling process using our self-developed sampling application.
Now you have one of the best, high-quality professional audio software plugins in your audio workstation. We spent countless hours developing these no-compromise plug-ins to give you only the best sound and feel that is as close to the real hardware as can be imagined. We are confident that this plug-in will help you make more professional mixes.

RECOMMENDATION: We recommend to our users to constantly spend time on proper hardware maintenance, trying to have the proper symmetry between hardware, operating system, DAW and plugin. Below is the system requirement table of Azure2; We do not guarantee correct functioning and compatibility for any DAW, Operating System not specifically mentioned in the following table.

	Windows		OSX	
	Minimum	Recommended	Minimum	Recommended
Operating System	Windows 7	Windows 10	OSX 10.8	OSX 10.12
CPU	Quad Core	Latest multicore CPU	Quad Core	Latest multicore CPU
RAM	4 GB	16 GB to 128 GB	4 GB	16 GB to 128 GB
HDD/SDD	1200 MB	1200 MB	1200 MB	1200 MB
Screen Resolution	1024x768 (XGA)	1920x1080 (HDTV)	1024x768 (XGA)	1920x1080 (HDTV)
Audio Host	VST2 / AAX 32 bits	VST2 / AAX 64 bits	VST2/AAX/AU 32 bits	VST2/AAX/AU 64 bits

SAMPLING PROCESS

The sampling process has been performed by Acustica Audio. The units were sampled with mastering quality converters, using a method which takes considerably more time than the normal sampling standard.
This method is of benefit to the entire audio spectrum.
Two sample rates are provided with Azure2; the native sample frequency was 96kHz. The 44.1kHz frequency was derived from the native one by a down-sampling and up-sampling process. This method avoids any negative sample rate conversion (SRC) artifacts when matching projects with different sample rates and also helps with project loading times.


Operation

This EQ isn't just a clone of one specific device. Azure2 is a special addition to our list of "endorsed" plug-ins and carries the unique tone of Zino Mikorey's sonic signature.

Each channel has four EQ bands: 27-470 Hz; 100Hz to 1.8kHz; 560Hz to 10kHz; and 1.5-27 kHz) plus high-pass (off/25/33/50 Hz) and low-pass (off/24/20/17 kHz) filters. The frequency within each band is selected using a 16-step switch that allows for accurate recall. Each band has a 7dB gain control which operates in 0.5dB steps, and a Q control ranging in four steps from 0.5 to 1.5, which can also be switched from bell to shelf mode.

Each band has its own on/off switch, and each channel has both an EQ on/off and a channel on/off switch. This last pair of switches probably gets most use when the final features the in-built M/S matrix is activated, as they let you audition the M/S signals, and EQ changes to them, separately.

DETAILS

Azure2 is a dual-channel passive equalizer, each MONO-channel can be controlled independently or dependently by an identical set of controls.

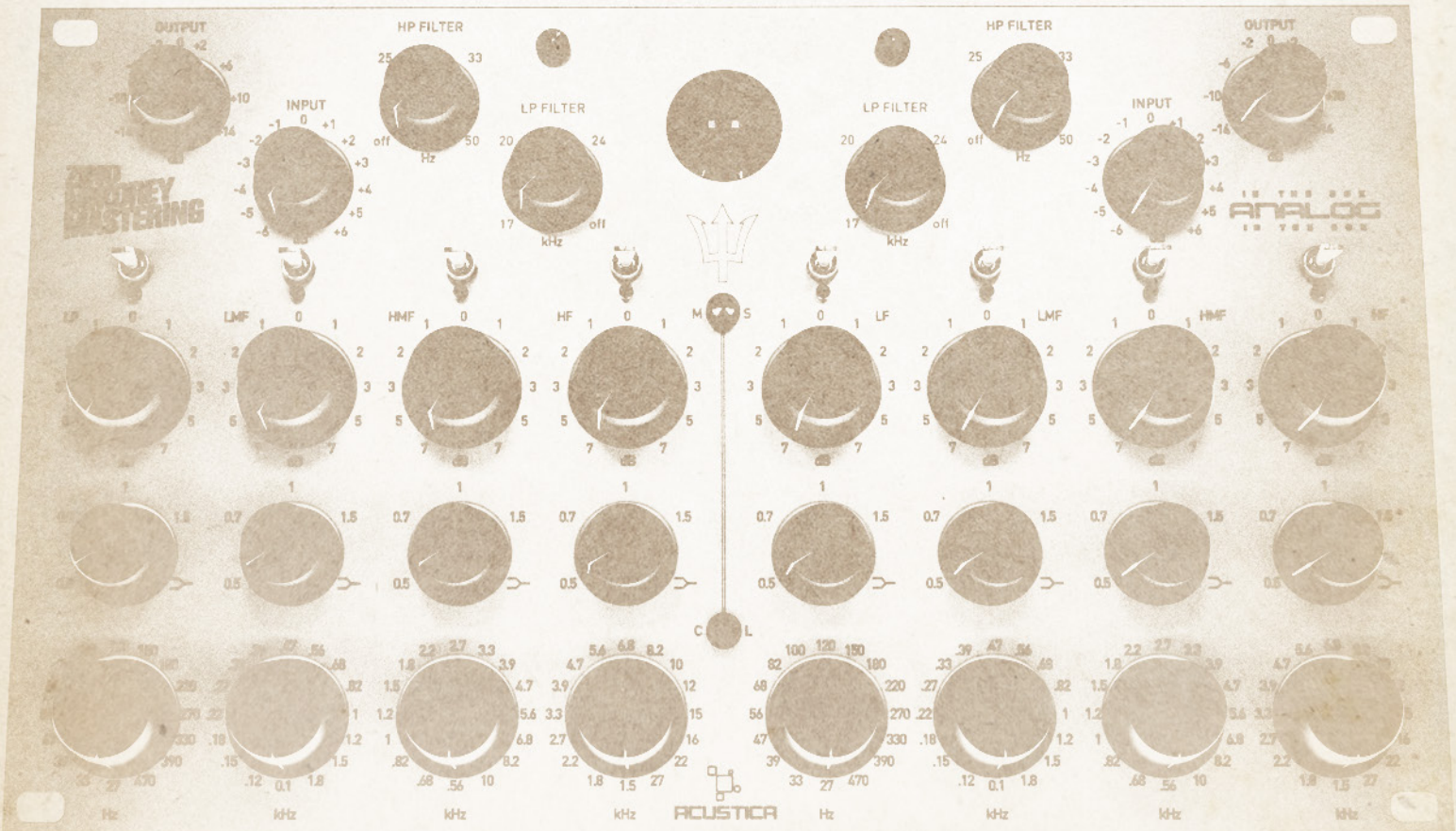
FREQUENCY

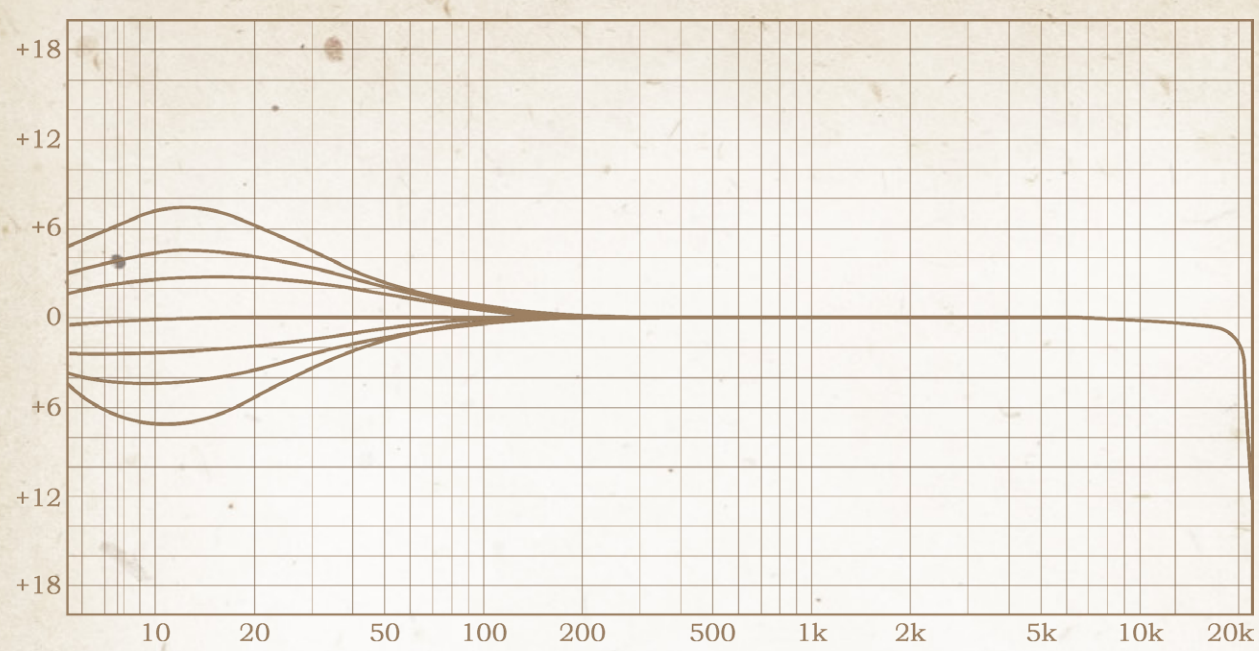
The Frequency ranges for each band are arranged in the following way:
- Low Frequency (Hz): 27, 33, 39, 47, 56, 68, 82, 100, 120, 150, 180, 220, 270, 330, 390, 470;
- Low Mid Frequency (kHz): 0.1, 0.12, 0.15, 0.18, 0.22, 0.27, 0.33, 0.39, 0.47, 0.56, 0.68, 0.82, 1, 1.2, 1.5, 1.8;
- High Mid Frequency (kHz): 0.56,0 .68, 0.82, 1, 1.2, 1.5, 1.8, 2.2, 2.7, 3.3, 3.9, 4.7, 5.6, 6.8, 8.2, 10;
- High Frequency (kHz): 1.5, 1.8, 2.2, 2.7, 3.3, 3.9, 4.7, 5.6, 6.8, 8.2, 10, 12, 15, 16, 22, 27;

Azure2 includes two different cut filters for each channel:-
Low Pass Filter Frequency 24KHz to 17KHz, Off
- High Pass Filter Frequency 25Hz to 50Hz, Off
Use the power button to concurrently activate both of the Filters for each channel

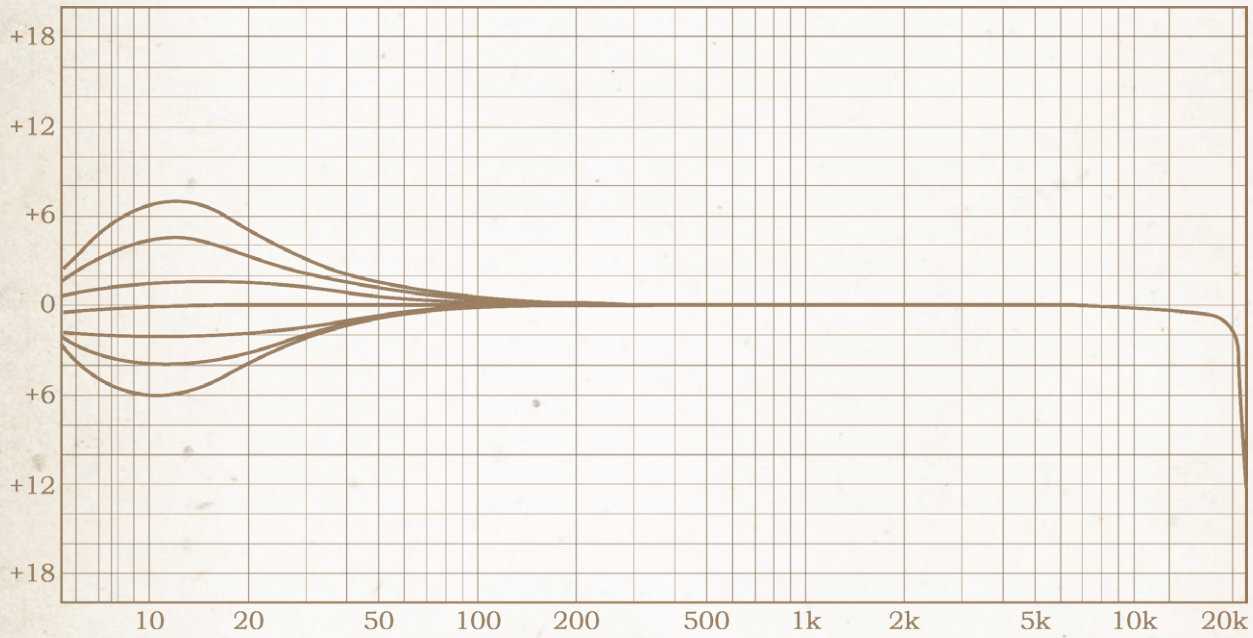
GAIN

Low Cut/Boost +/-7dB;
Low Mid Cut/Boost +/-7dB;
High Mid Cut/Boost +/-7dB;
High Cut/Boost +/-7dB;

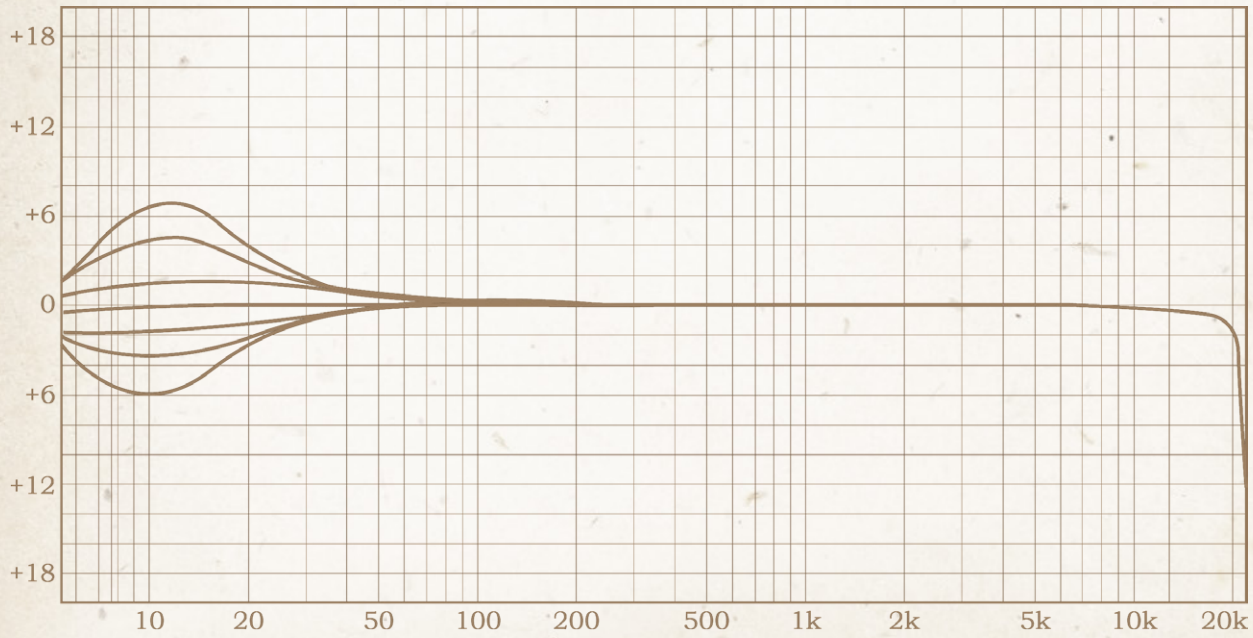




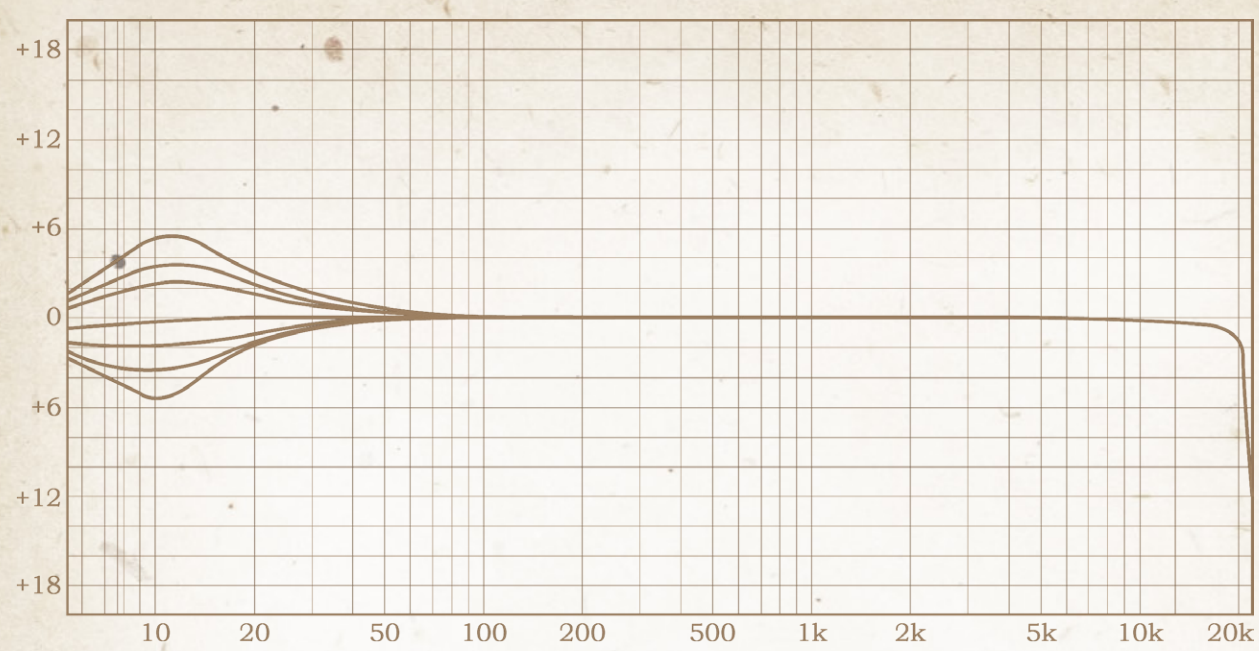
LF band - Freq. 27 Hz - Q: 0.5



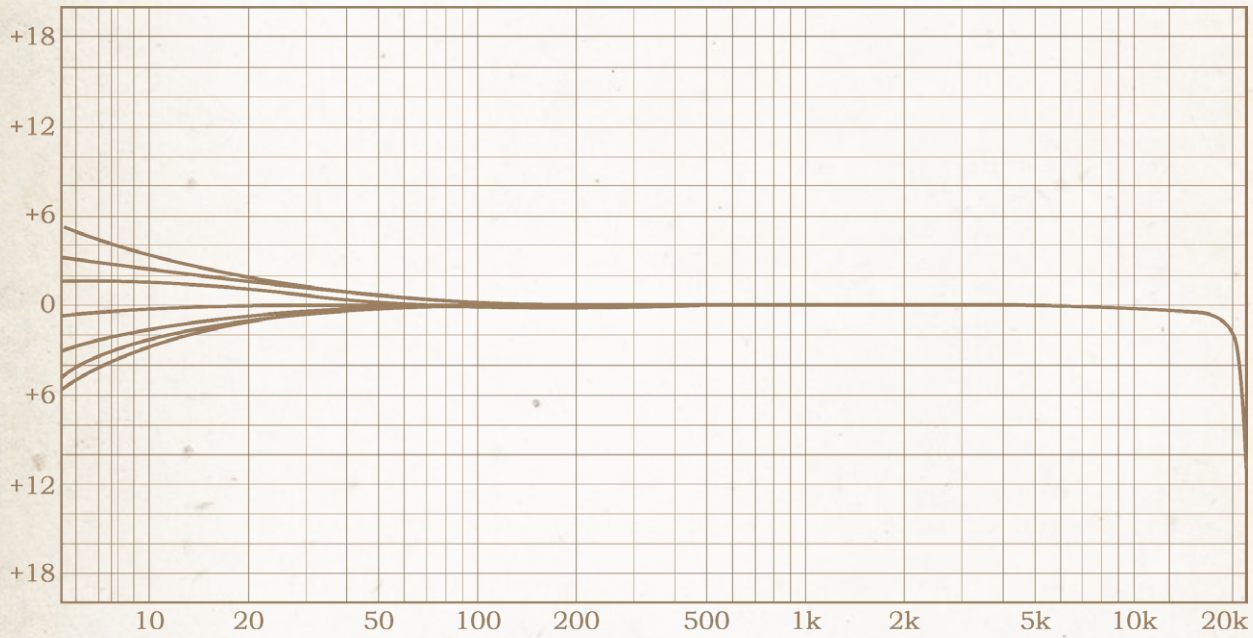
LF band - Freq. 27 Hz - Q: 0.7



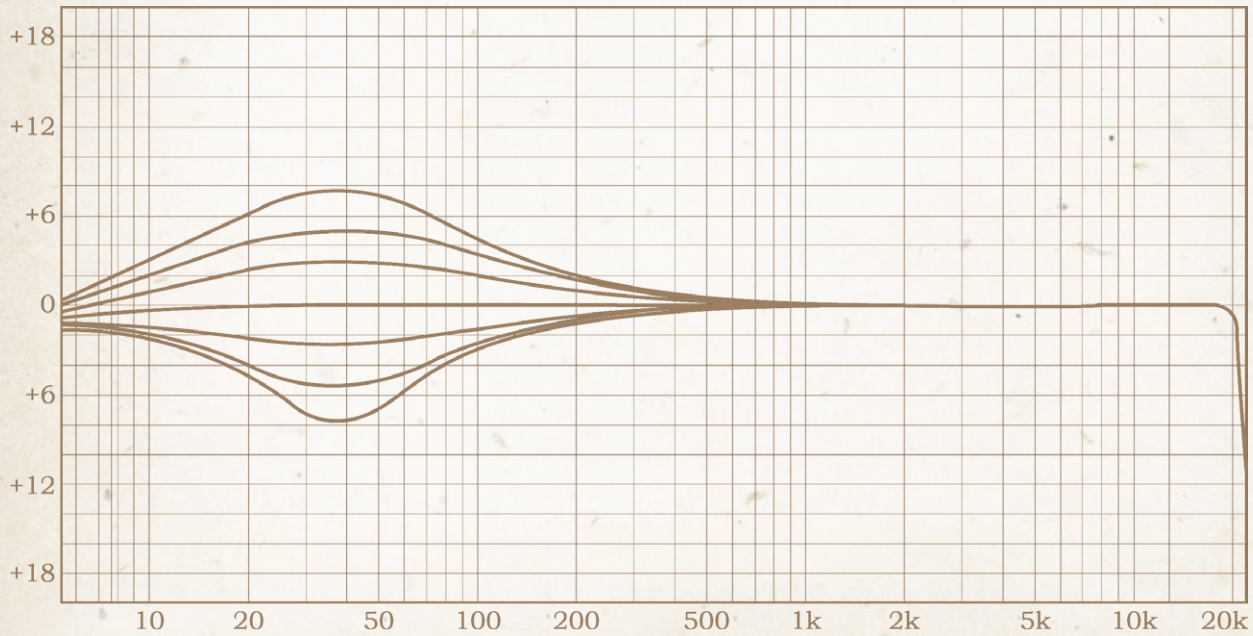
LF band - Freq. 27 Hz - Q: 1



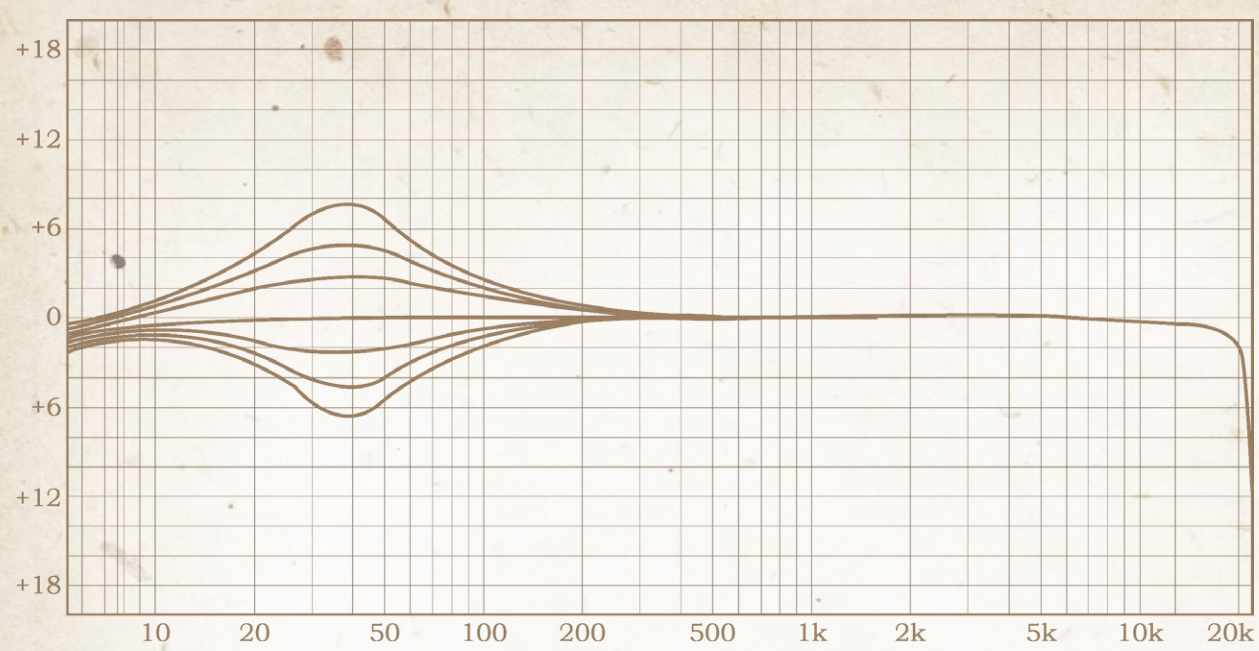
LF band - Freq. 27 Hz - Q: 1.5



LF band - Freq. 27 Hz - Q: Shelf



LF band - Freq. 82 Hz - Q: 0.5



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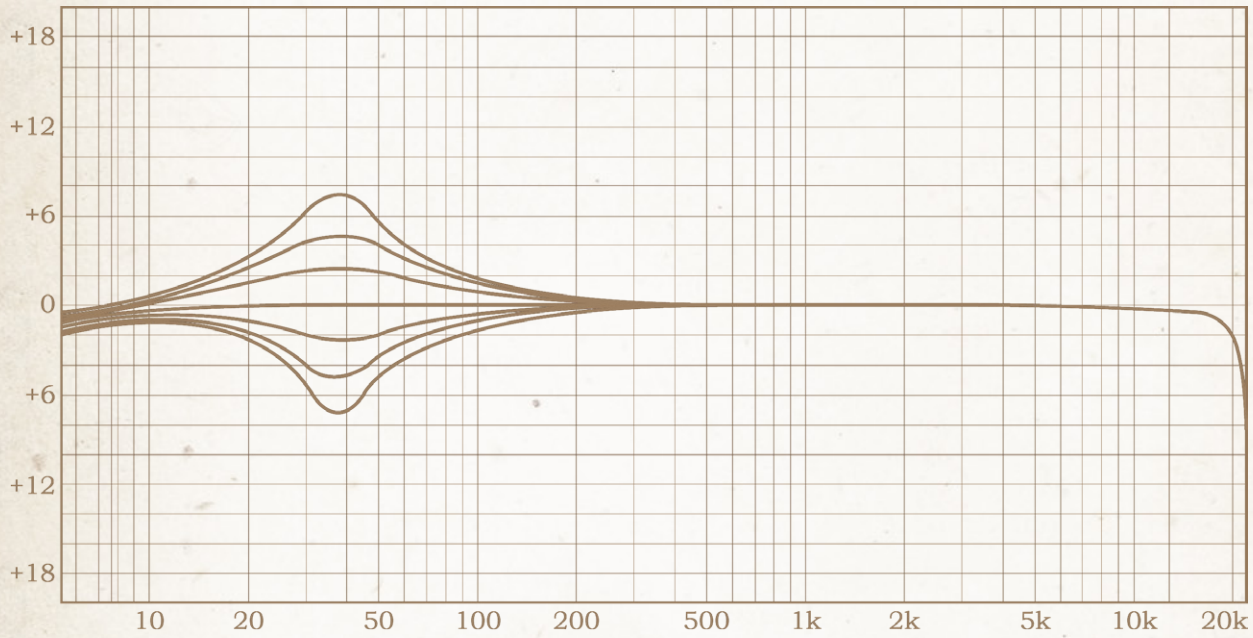

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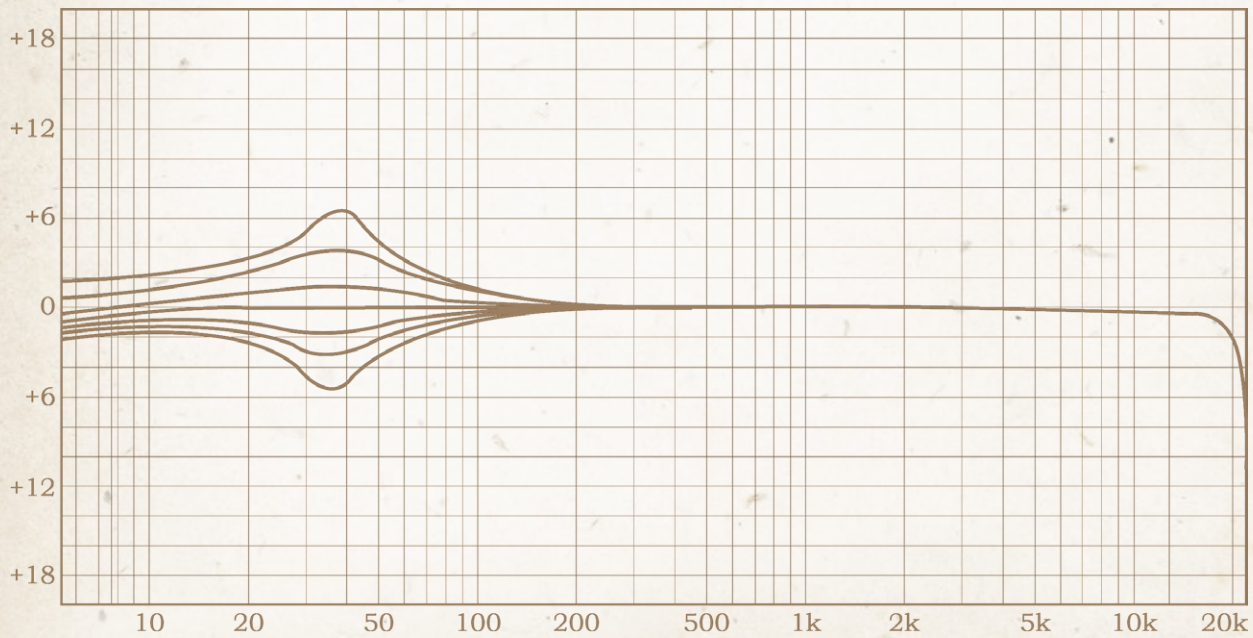

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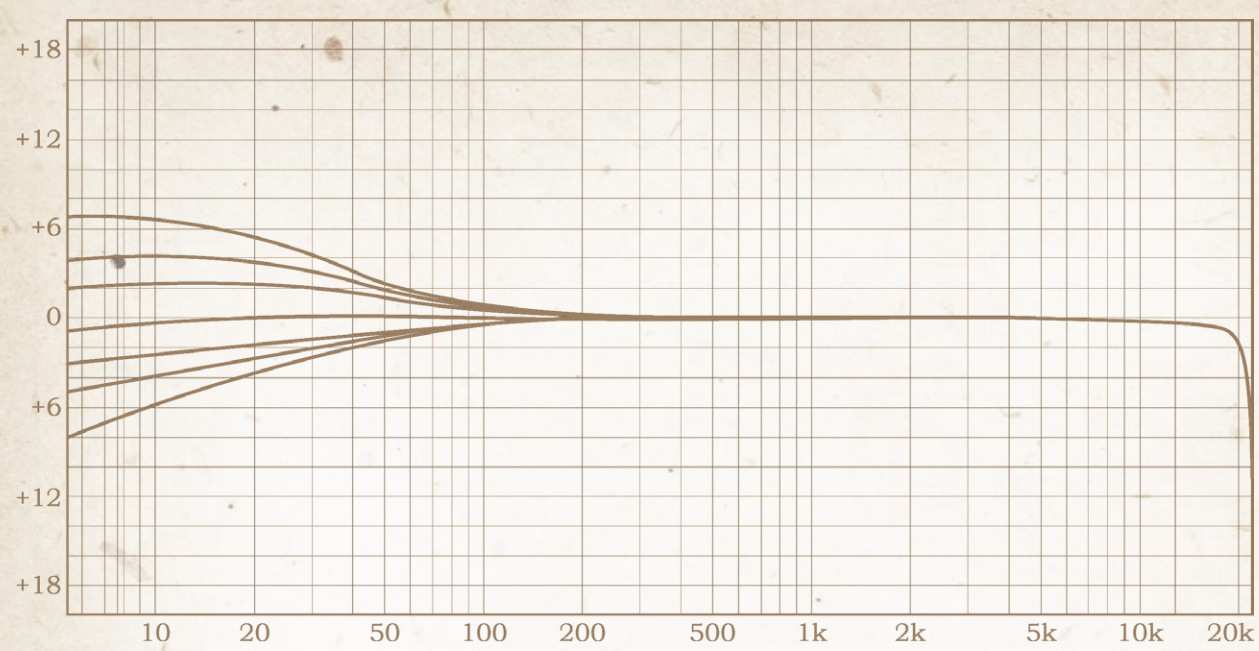
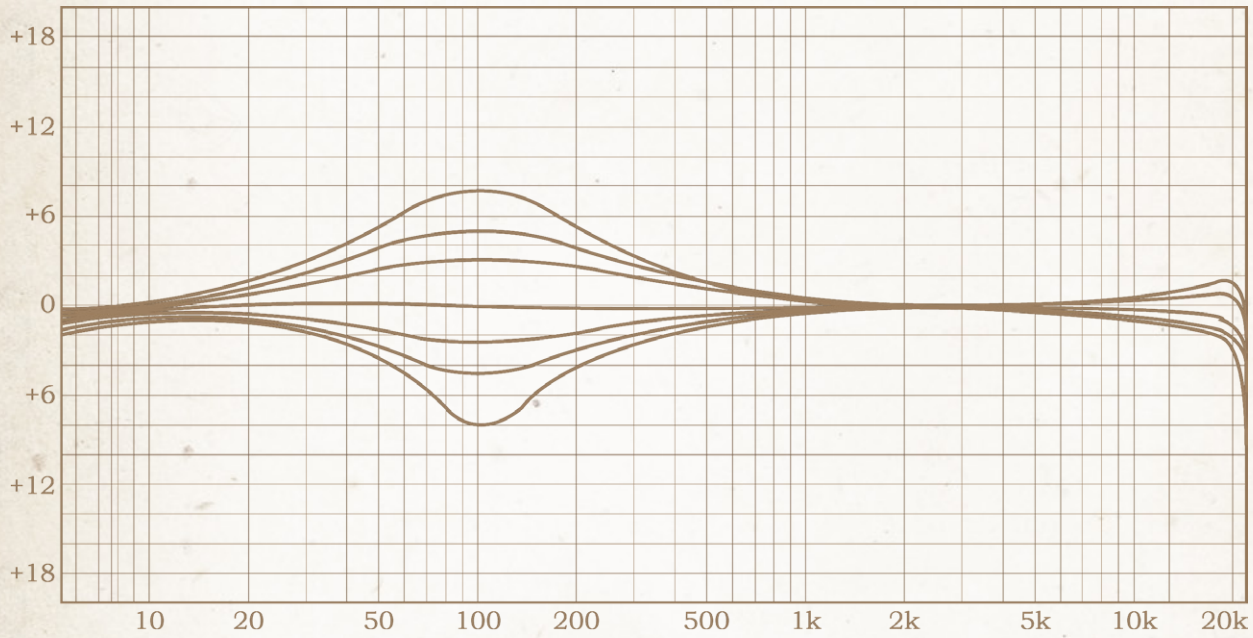
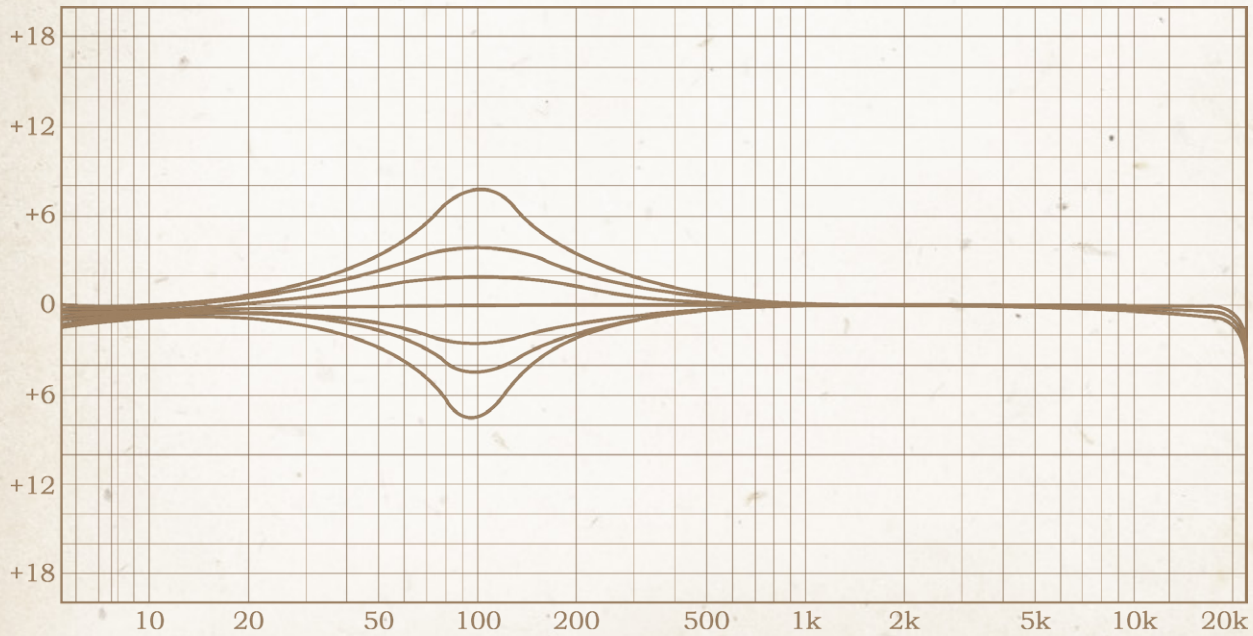


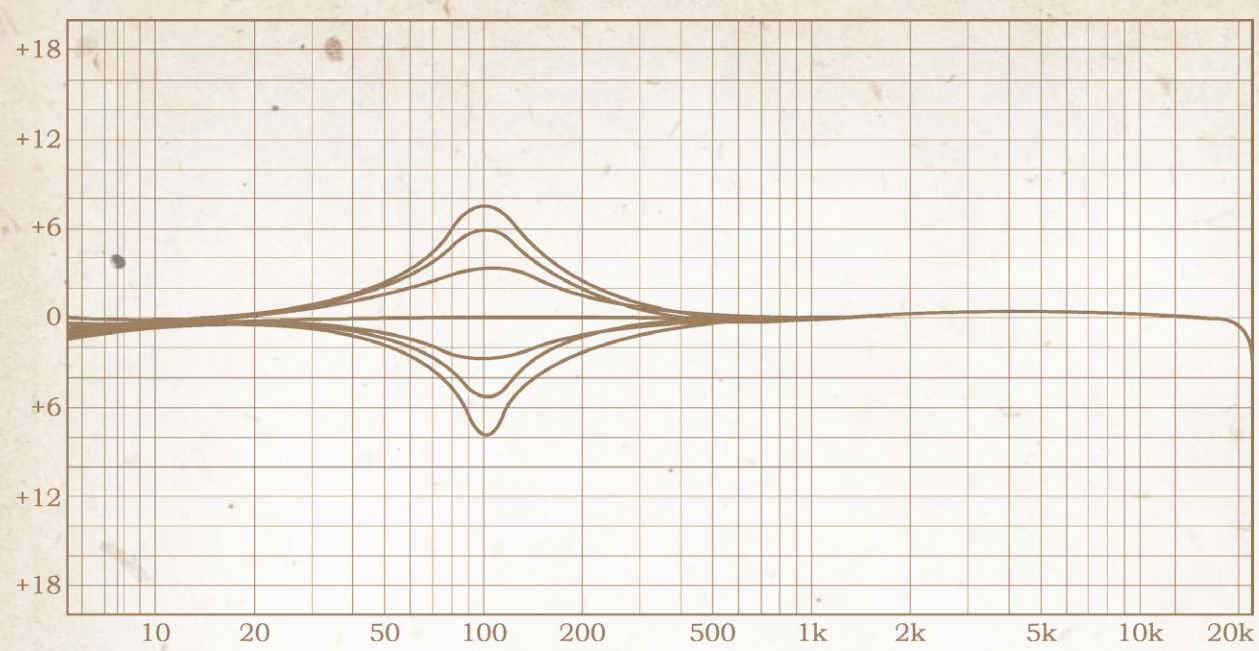
LF band - Freq. 82 Hz - Q: Shelf



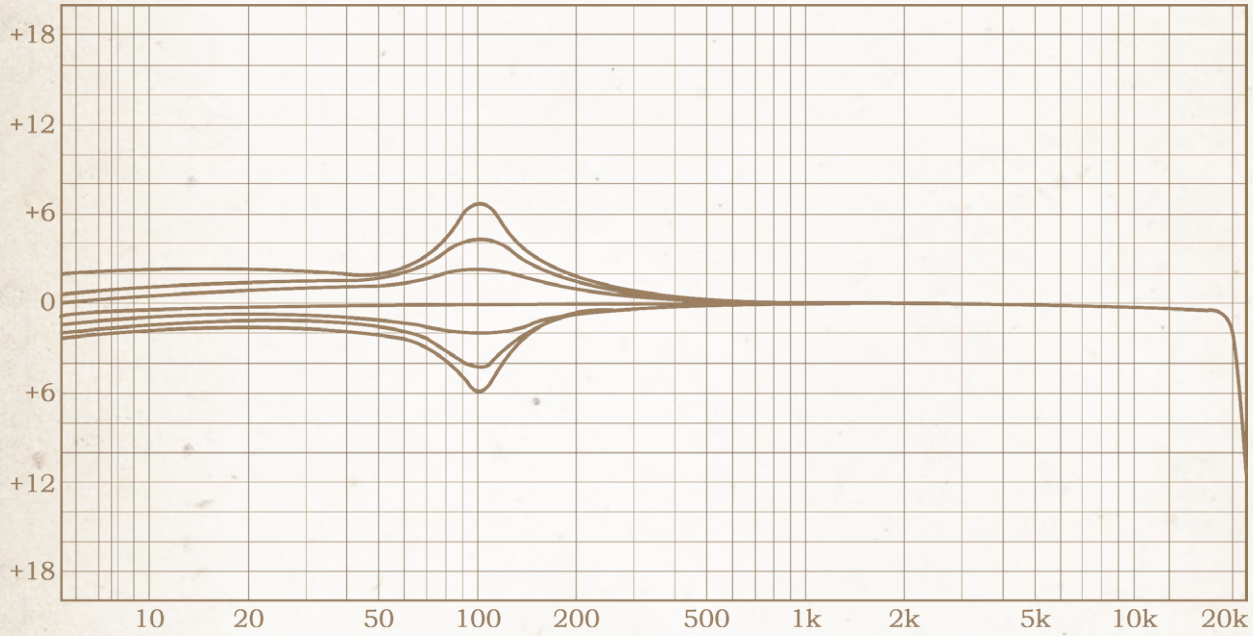
LF band - Freq. 220 Hz - Q: 0.5



LF band - Freq. 220 Hz - Q: 0.7



LF band - Freq. 220 Hz - Q: 1



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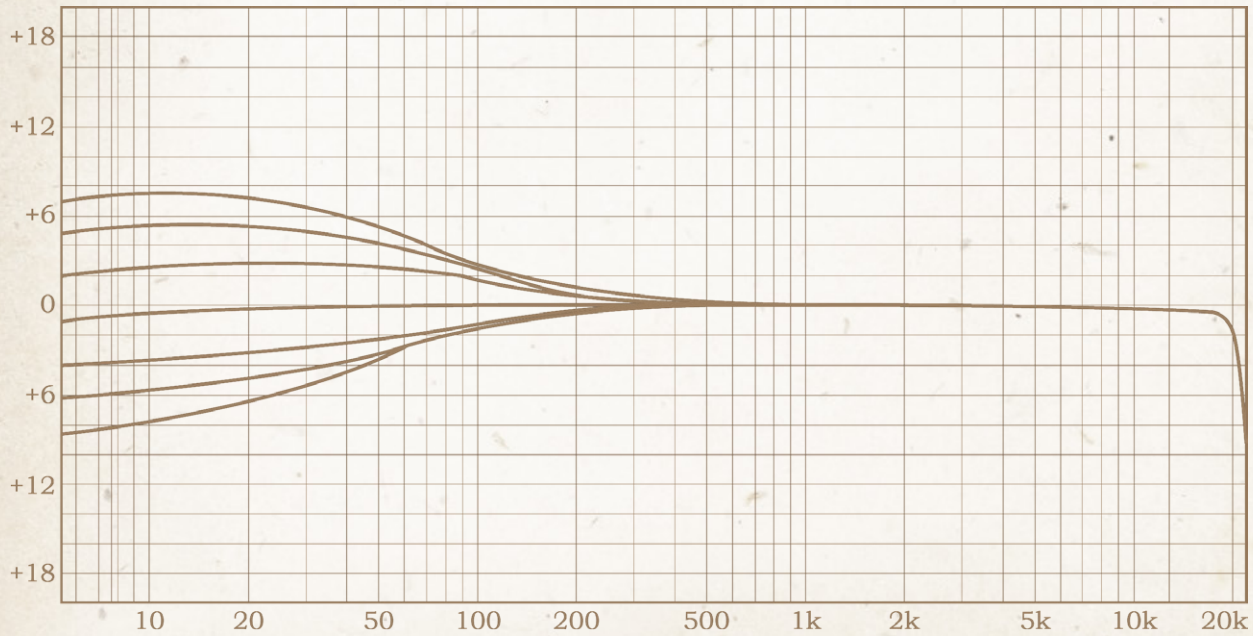
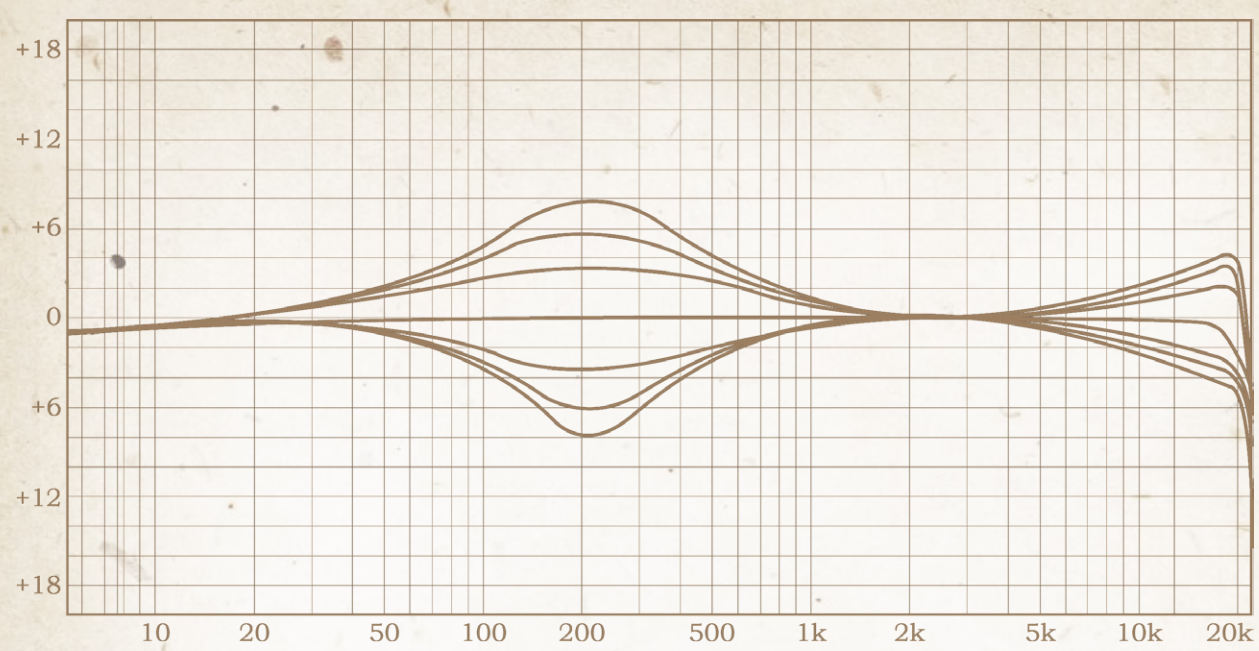
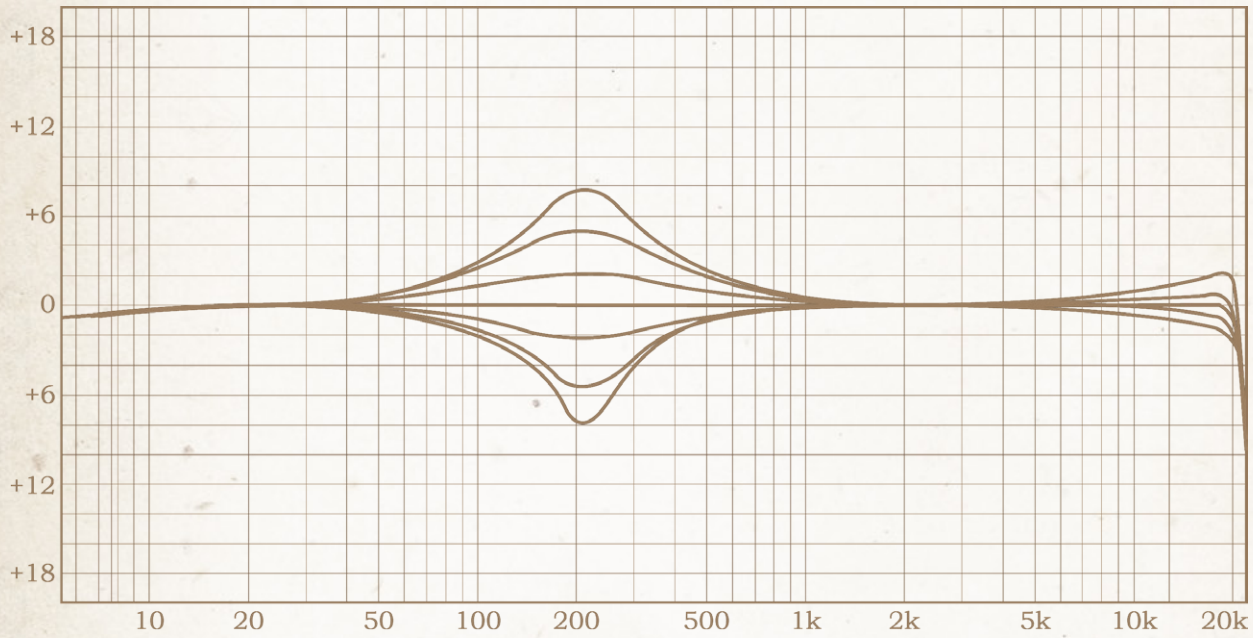


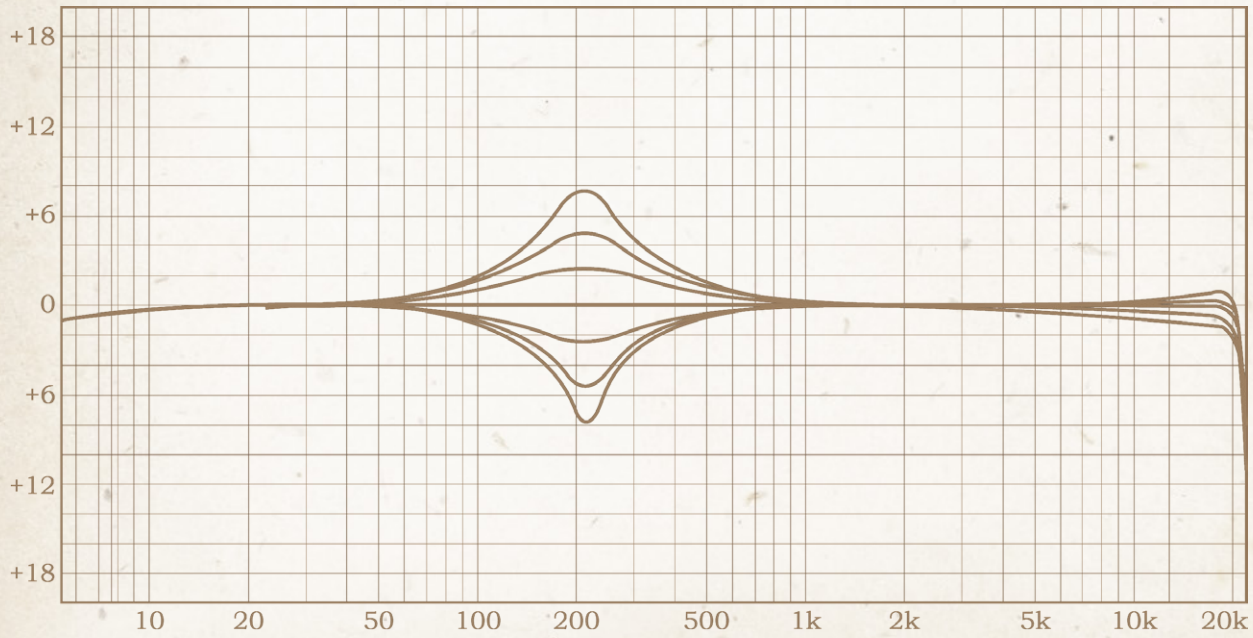
LF band - Freq. 220 Hz - Q: Shelf



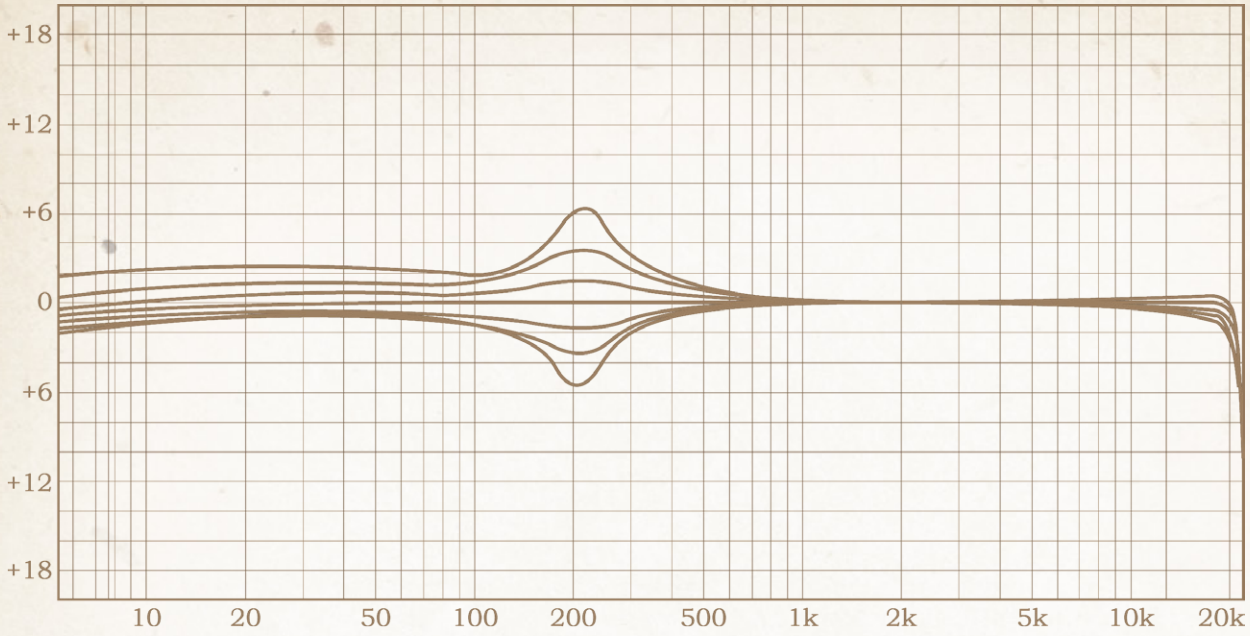
LF band - Freq. 470 Hz - Q: 0.5



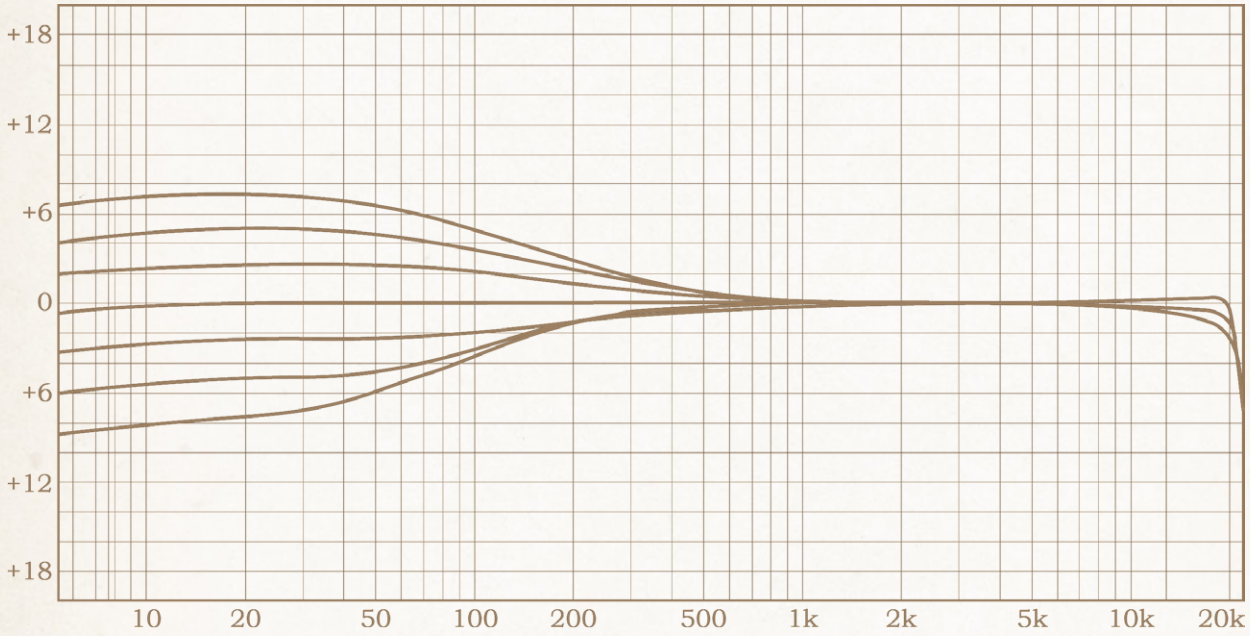
LF band - Freq. 470 Hz - Q: 0.7



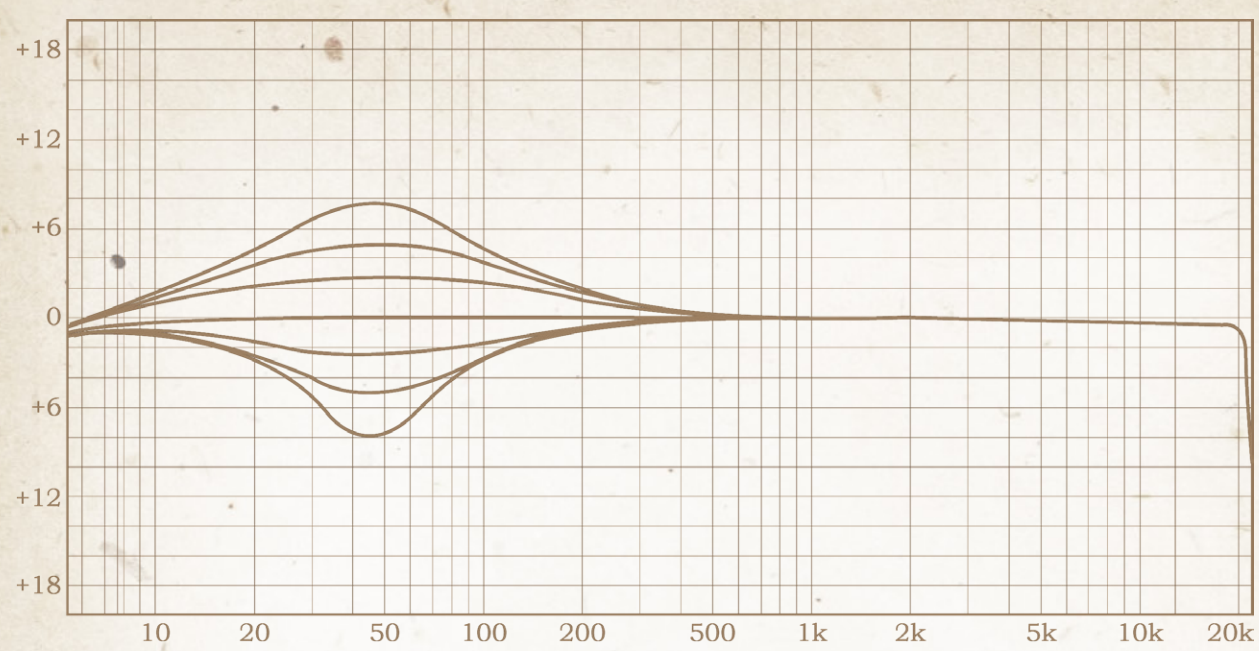
LF band - Freq. 470 Hz - Q: 1



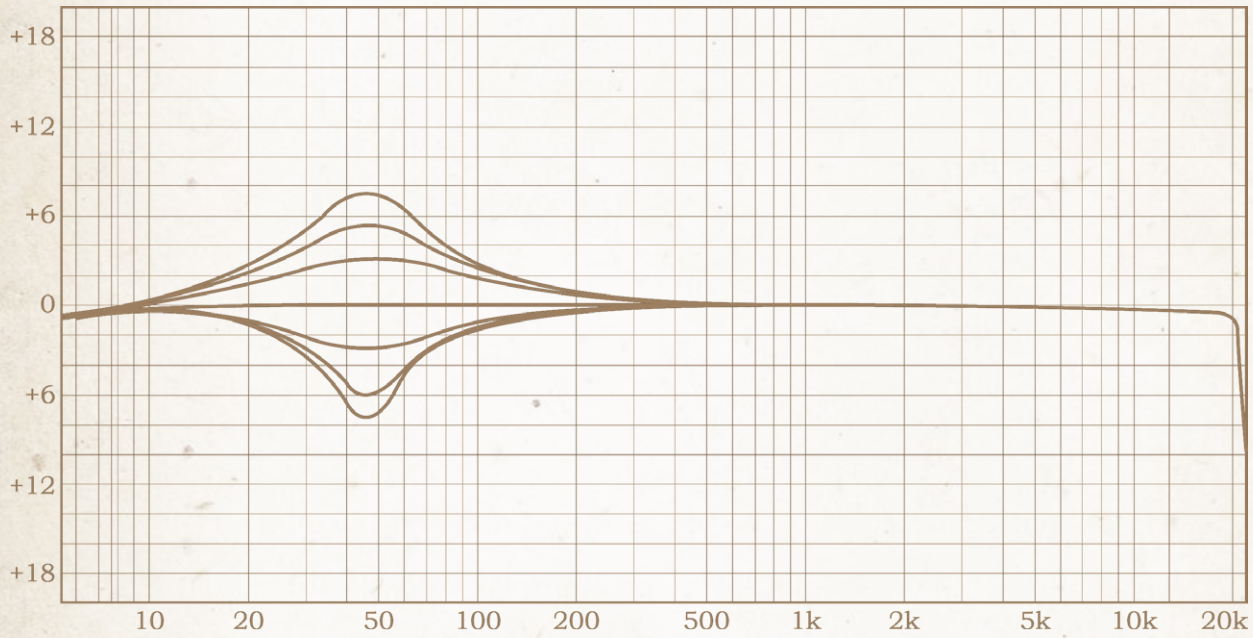
LF band - Freq. 470 Hz - Q: 1.5



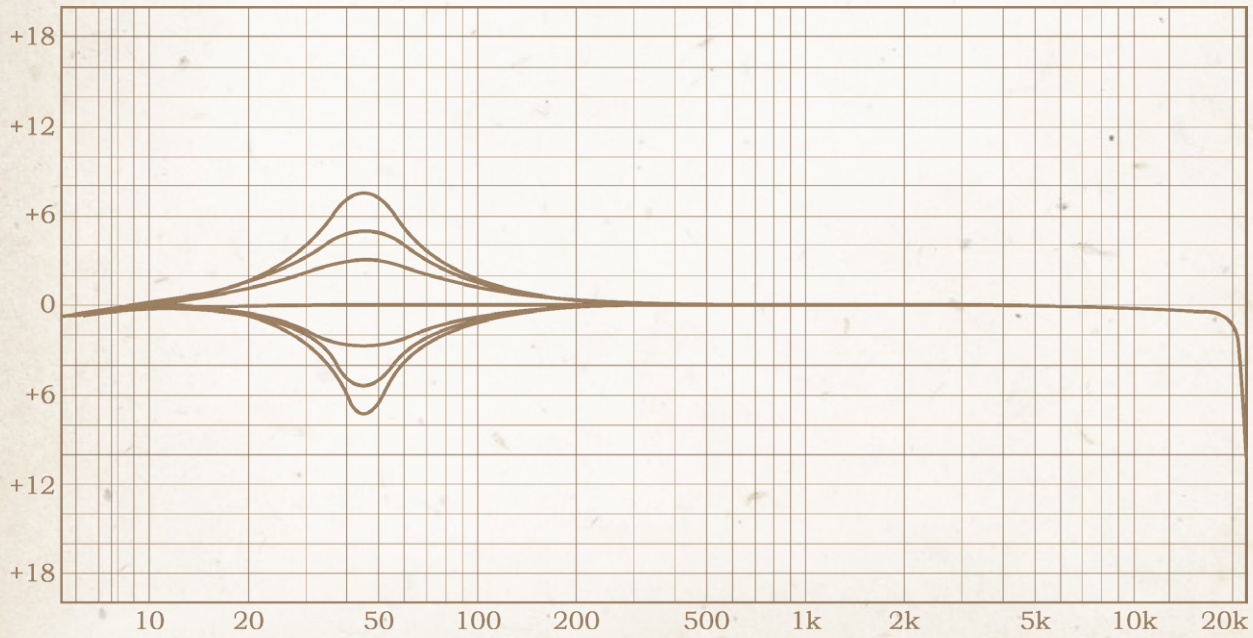
LF band - Freq. 470 Hz - Q: Shelf



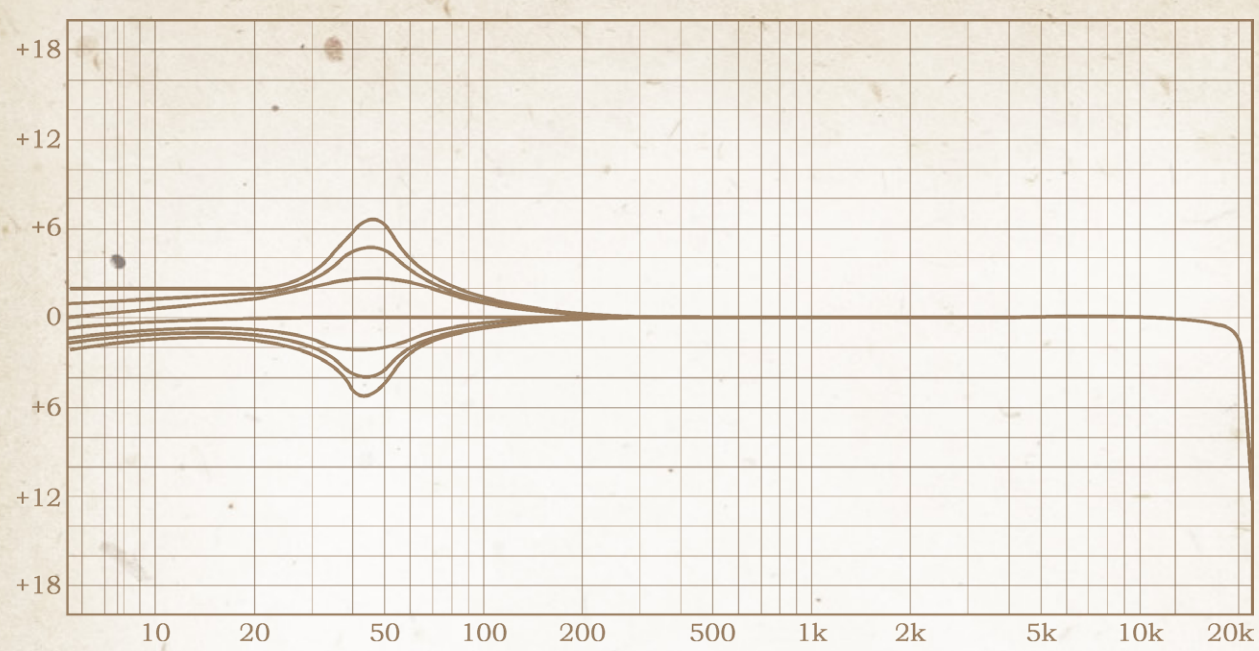
LMF band - Freq. 0.1 kHz - Q: 0.5



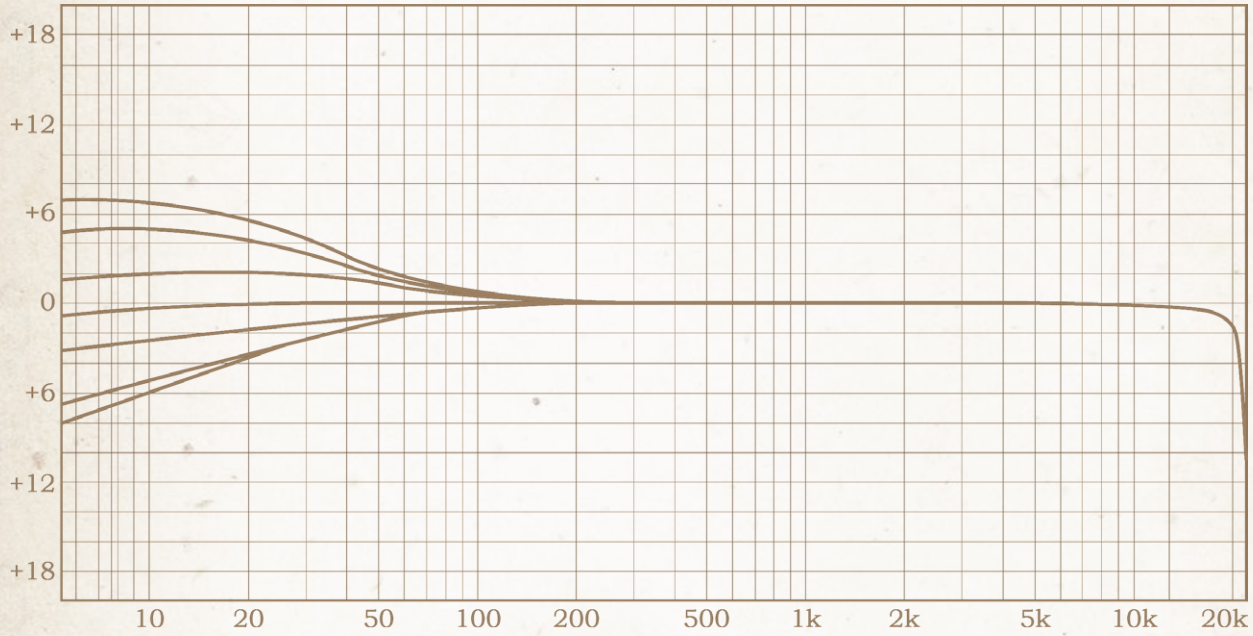
LMF band - Freq. 0.1 kHz - Q: 0.7



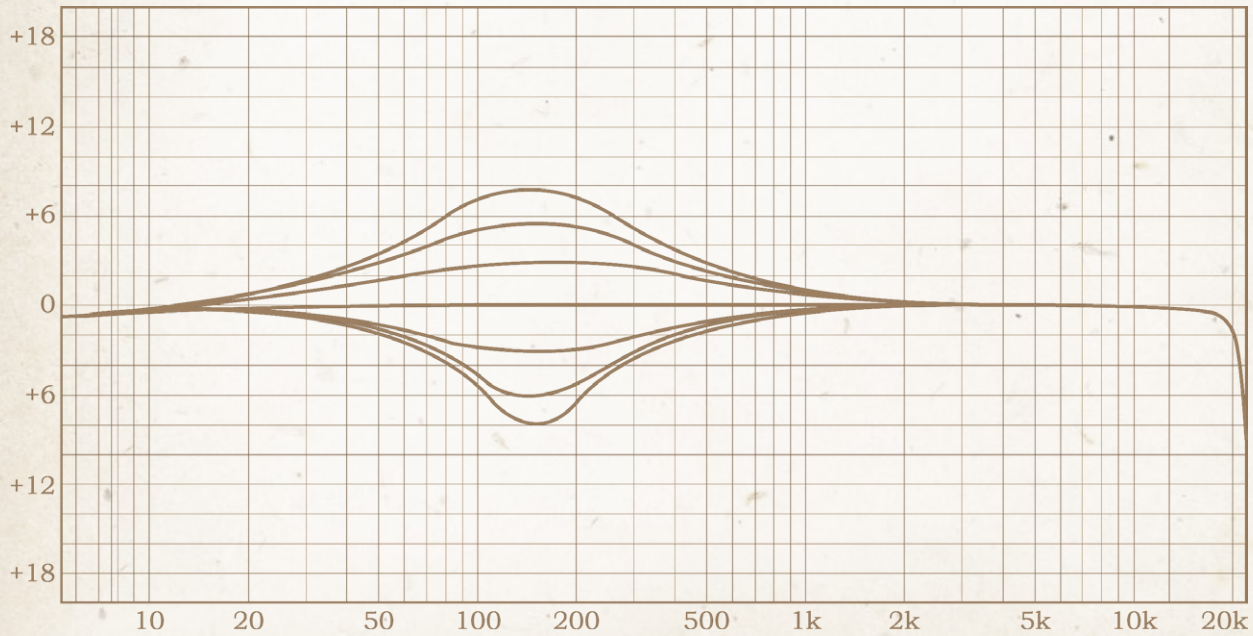
LMF band - Freq. 0.1 kHz - Q: 1



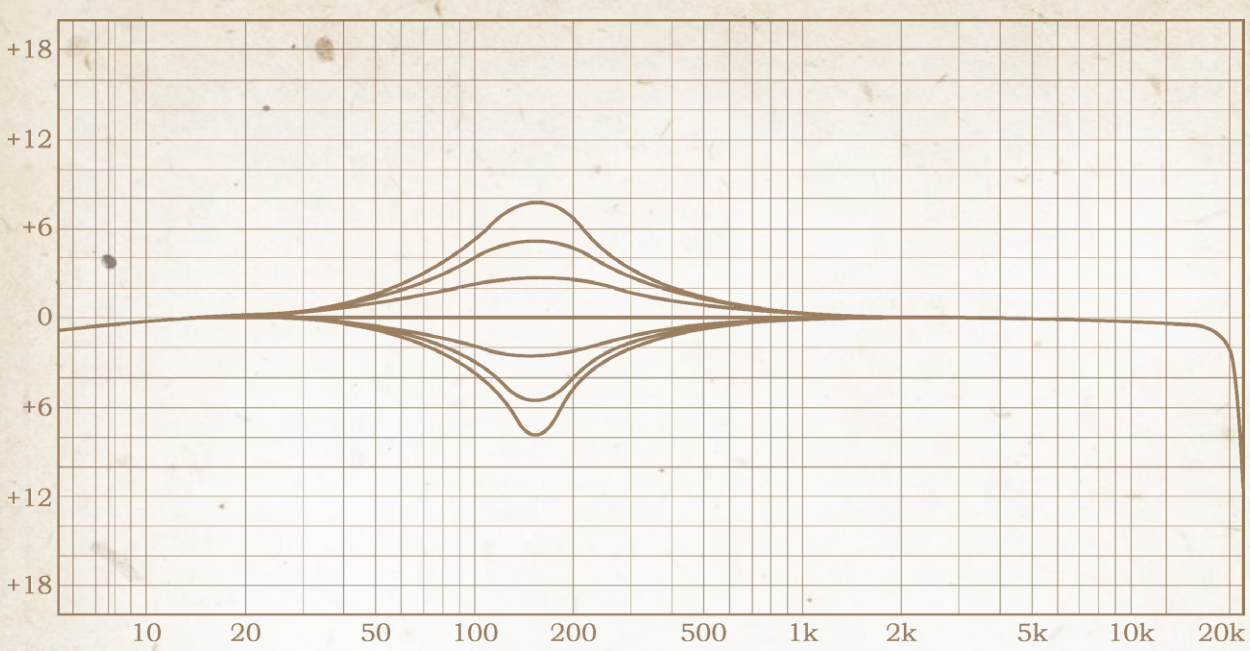
LMF band - Freq. 0.1 kHz - Q: 1.5



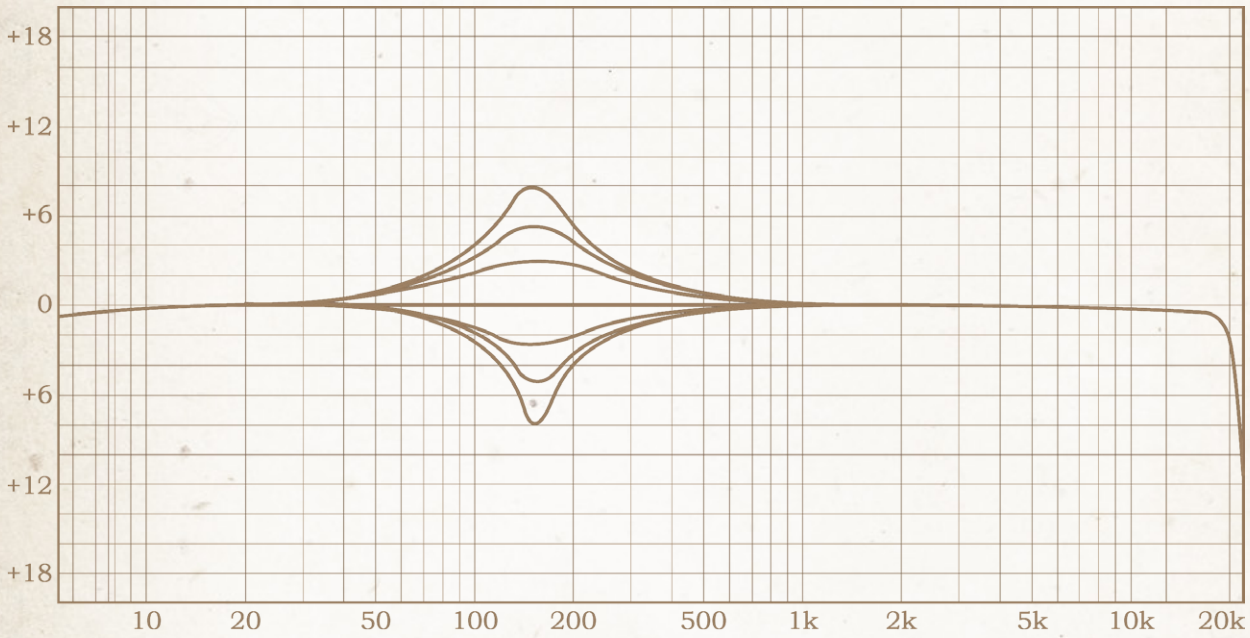
LMF band - Freq. 0.1 kHz - Q: Shelf



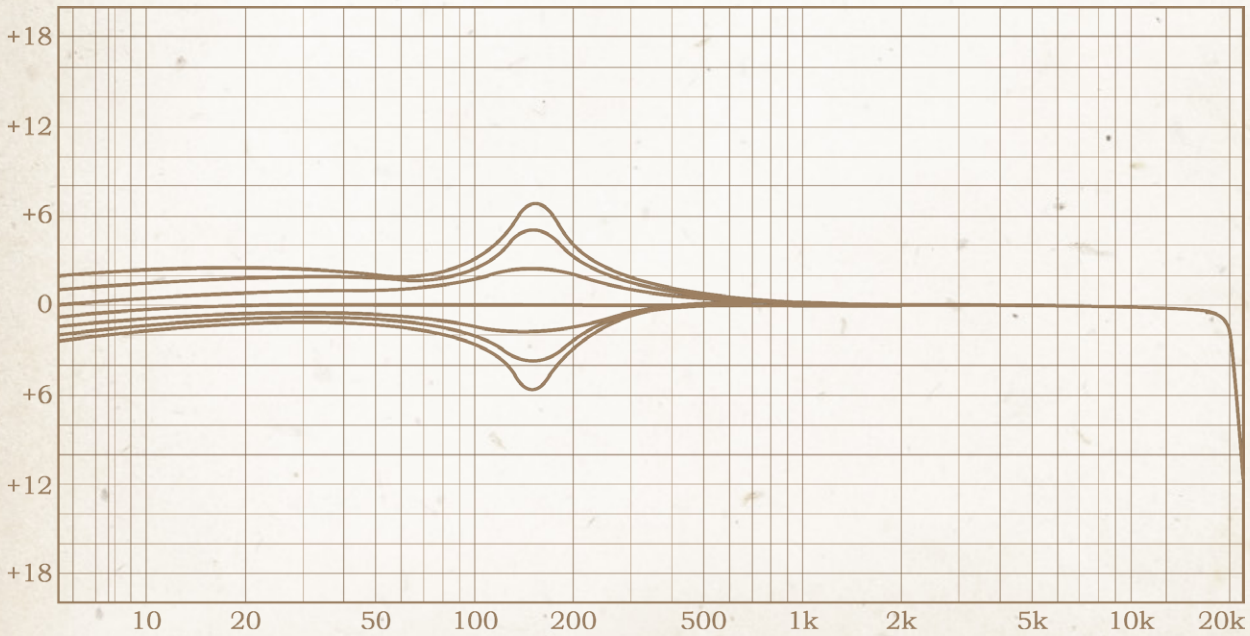
LMF band - Freq. 0.33 kHz - Q: 0.5



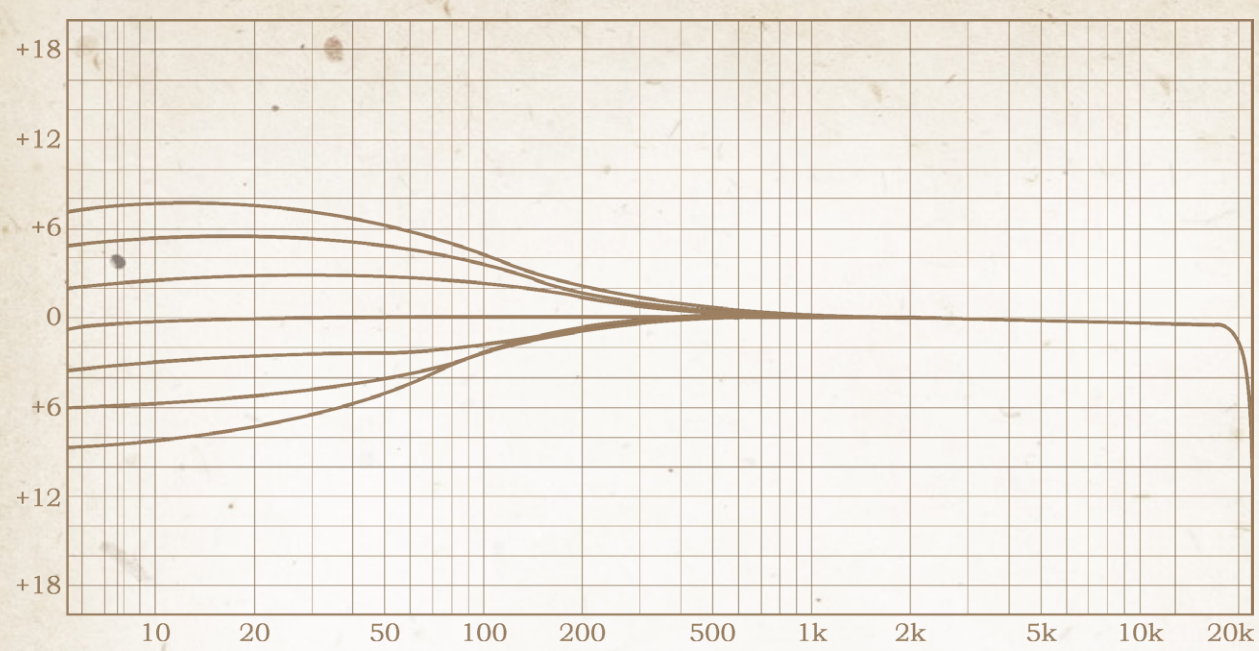
LMF band - Freq. 0.33 kHz - Q: 0.7



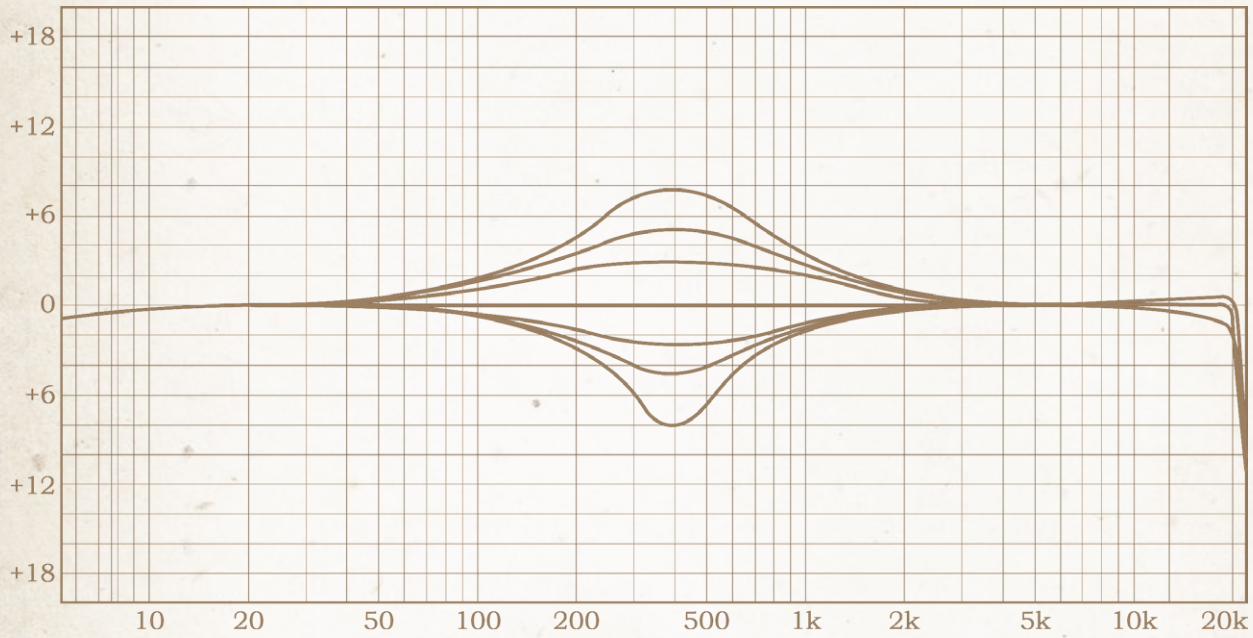
LMF band - Freq. 0.33 kHz - Q: 1



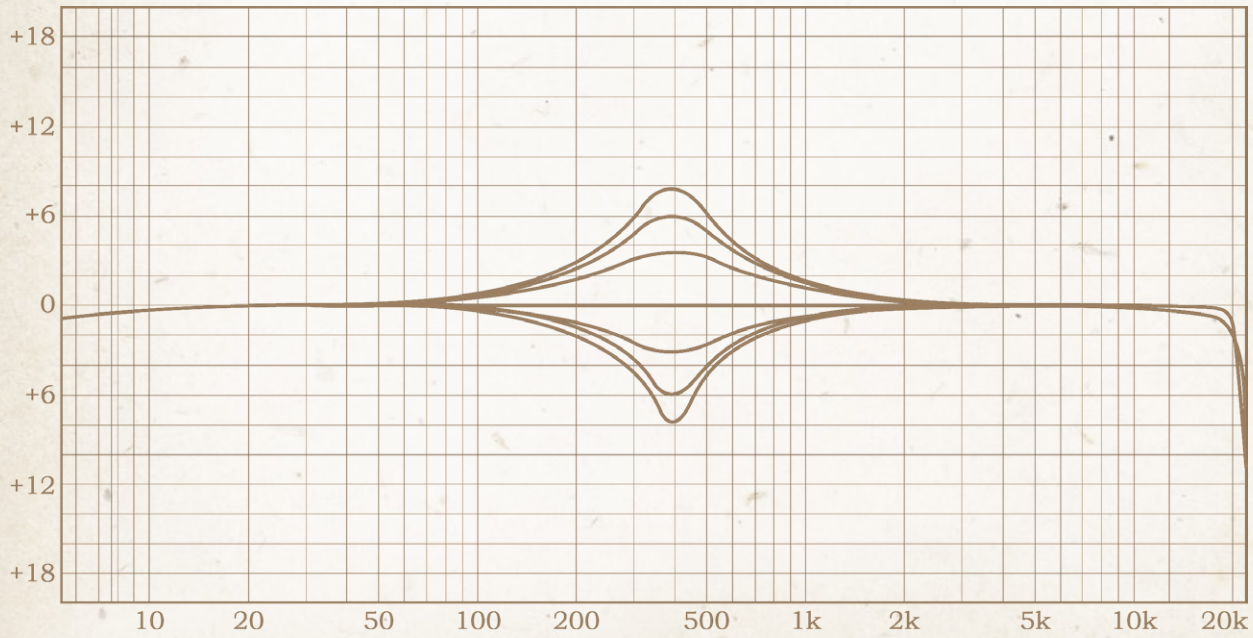
LMF band - Freq. 0.33 kHz - Q: 1.5



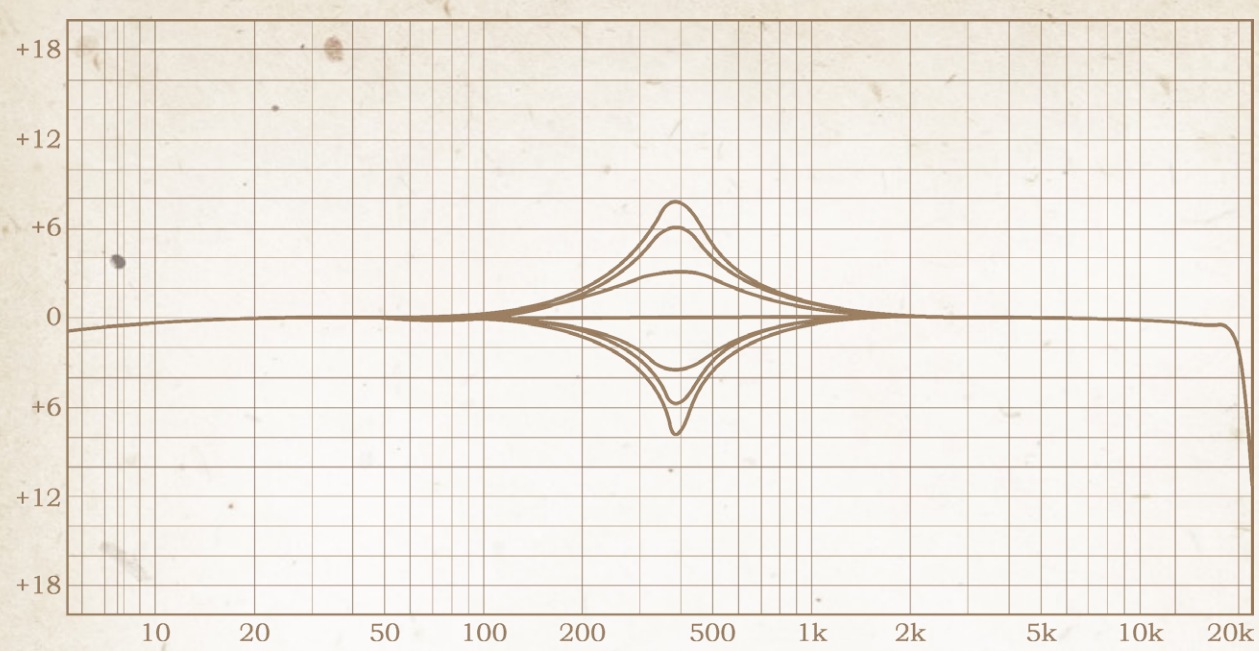
LMF band - Freq. 0.33 kHz - Q: Shelf



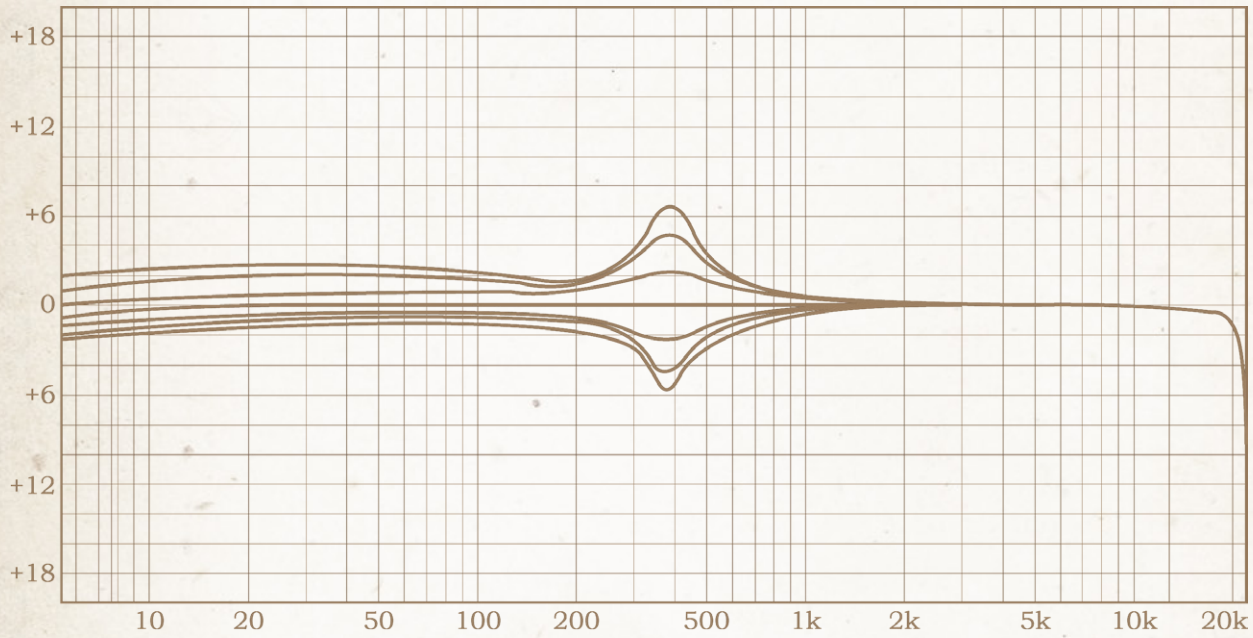
LMF band - Freq. 0.82 kHz - Q: 0.5



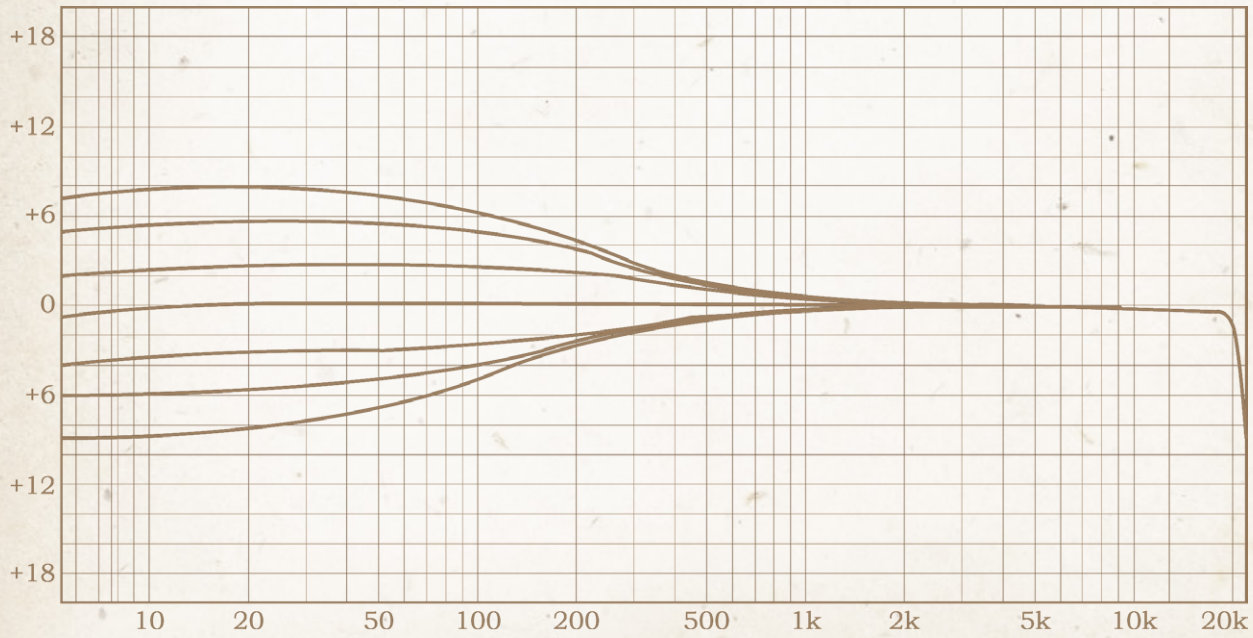
LMF band - Freq. 0.82 kHz - Q: 0.7



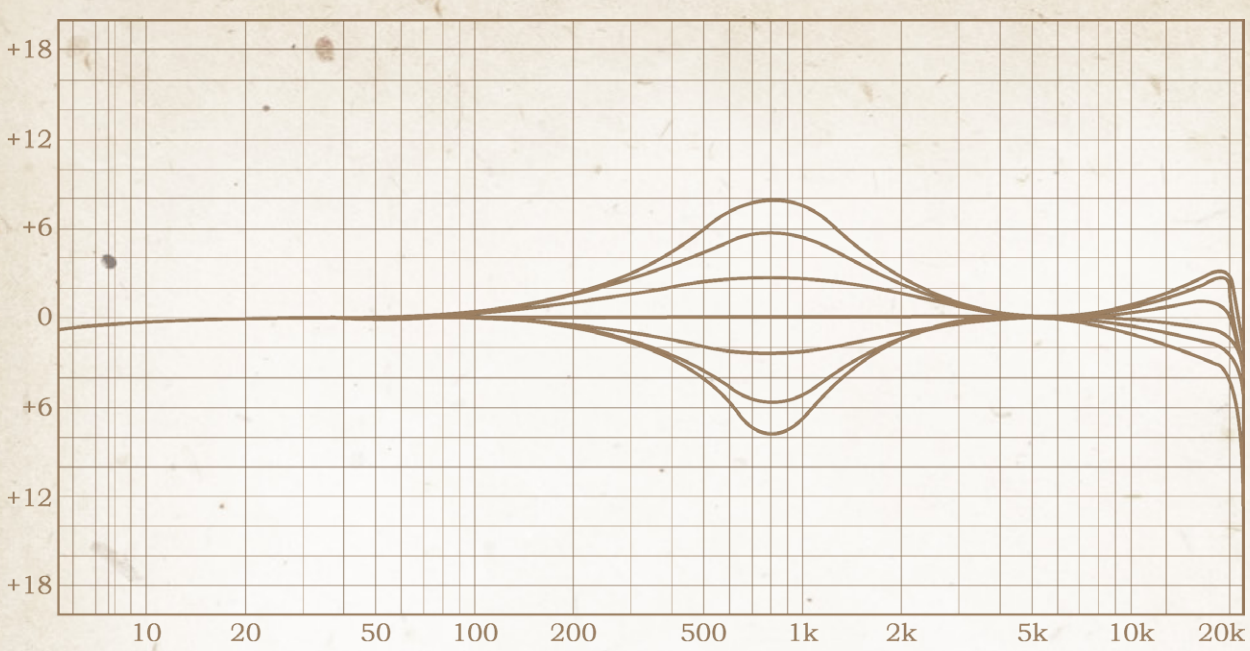
LMF band - Freq. 0.82 kHz - Q: 1



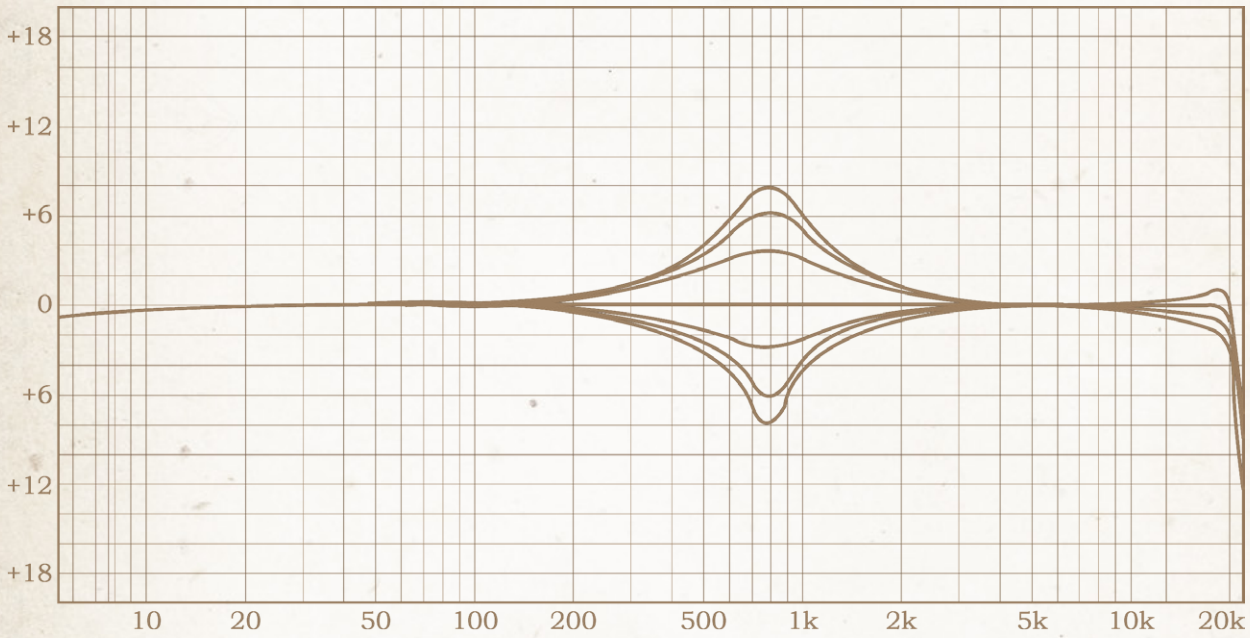
LMF band - Freq. 0.82 kHz - Q: 1.5



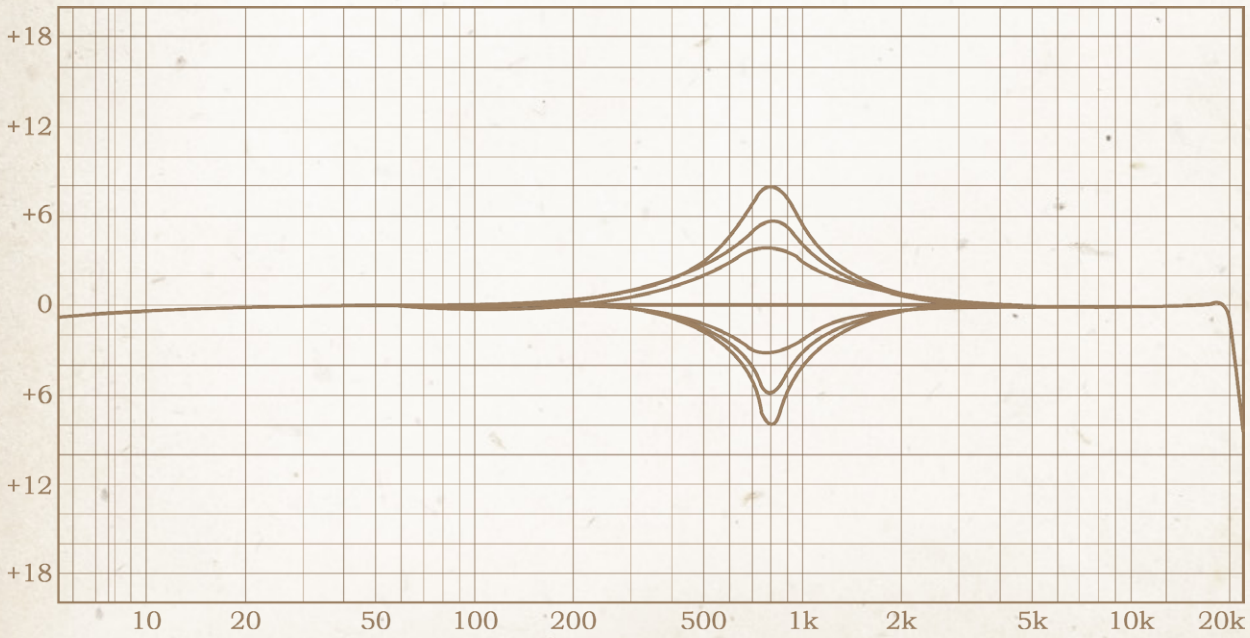
LMF band - Freq. 0.82 kHz - Q: Shelf



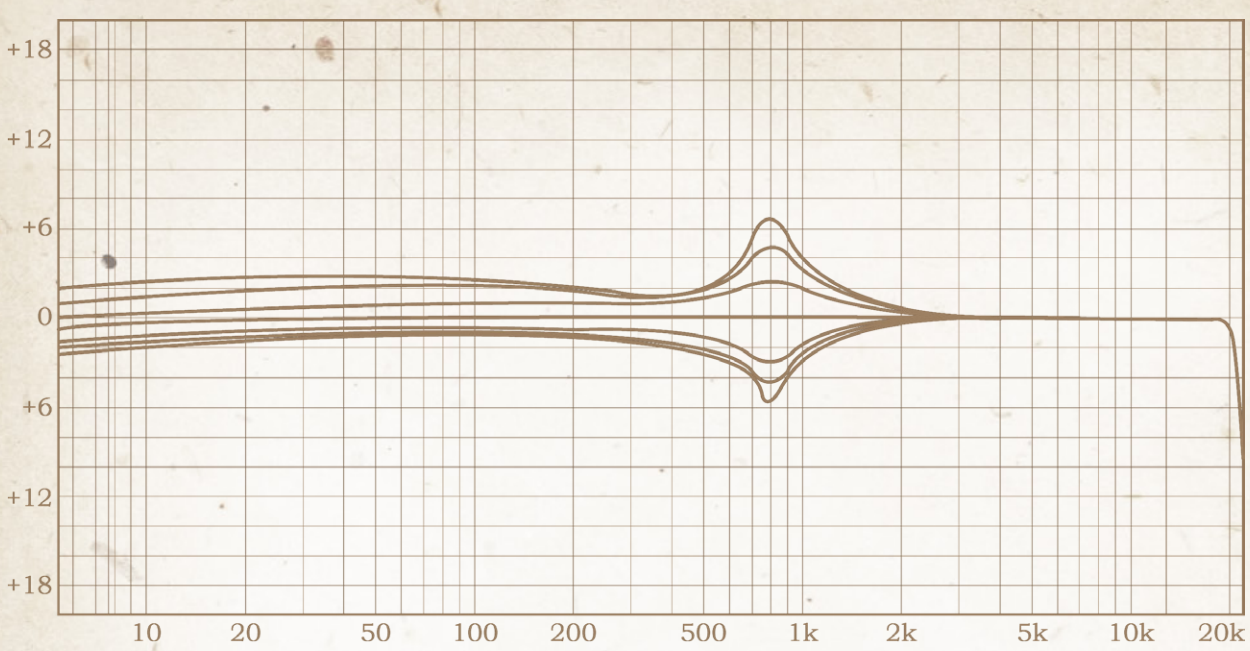
LMF band - Freq. 1.8 kHz - Q: 0.5



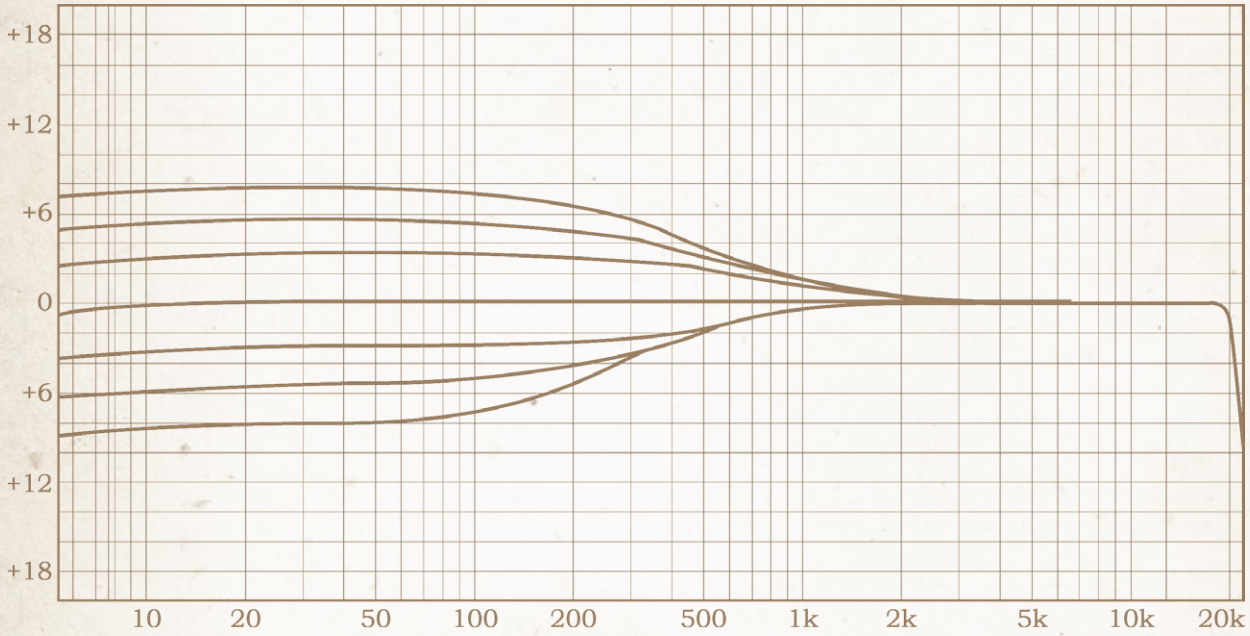
LMF band - Freq. 1.8 kHz - Q: 0.7



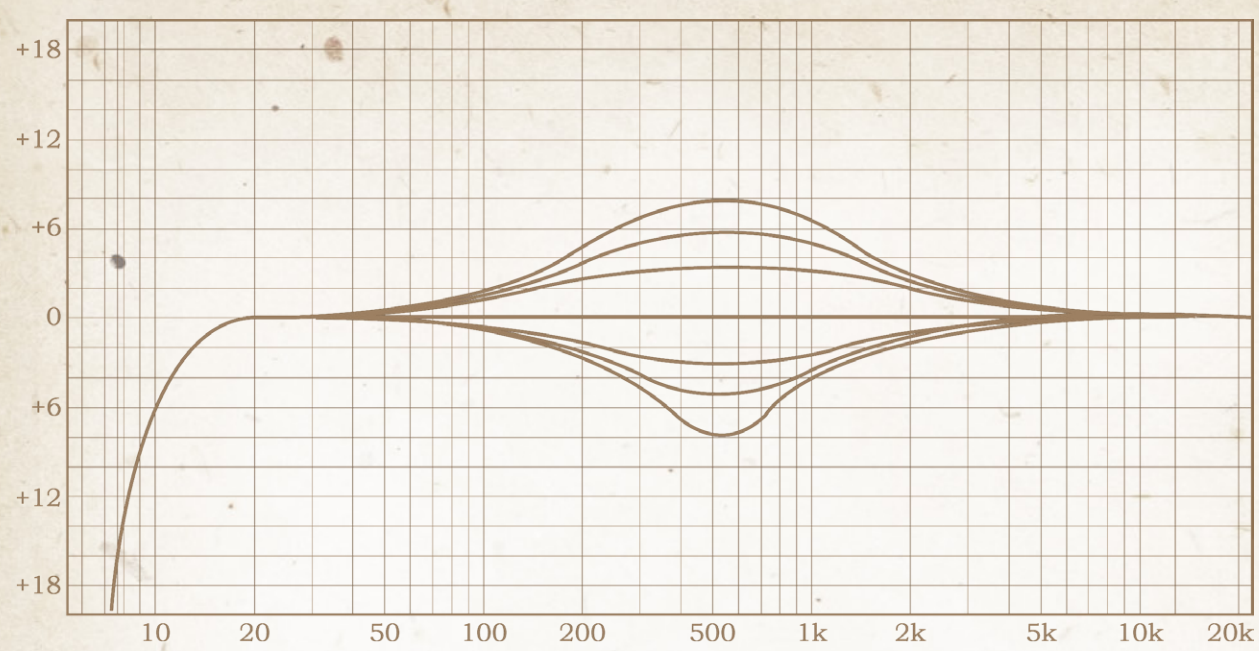
LMF band - Freq. 1.8 kHz - Q: 1



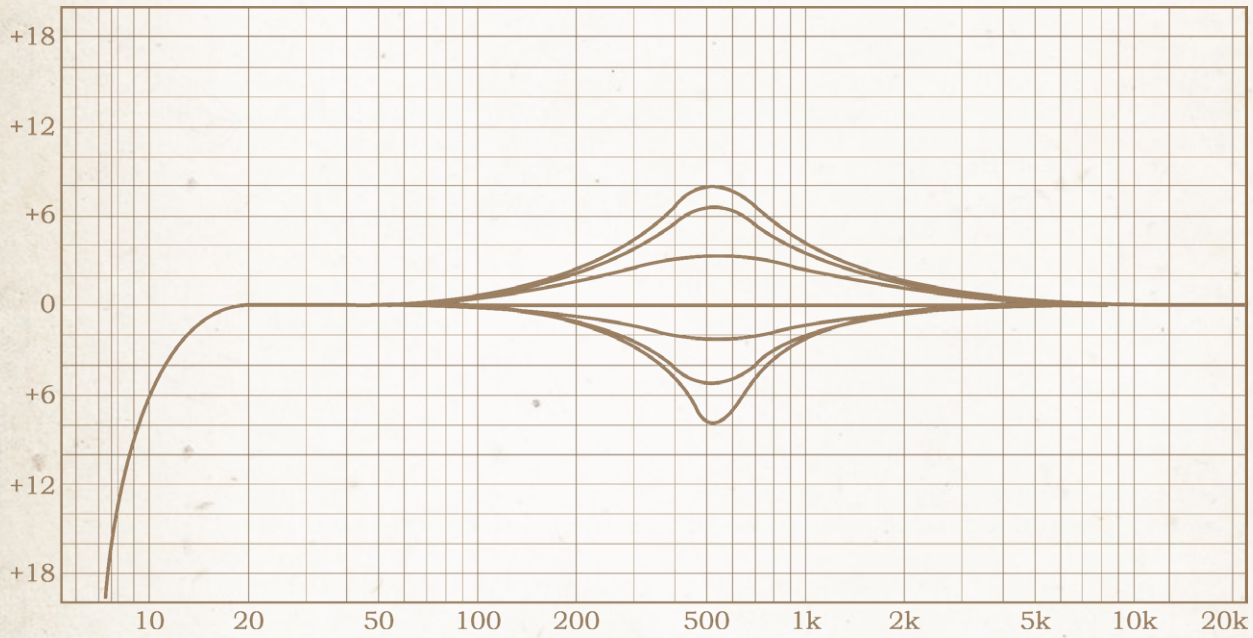
LMF band - Freq. 1.8 kHz - Q: 1.5



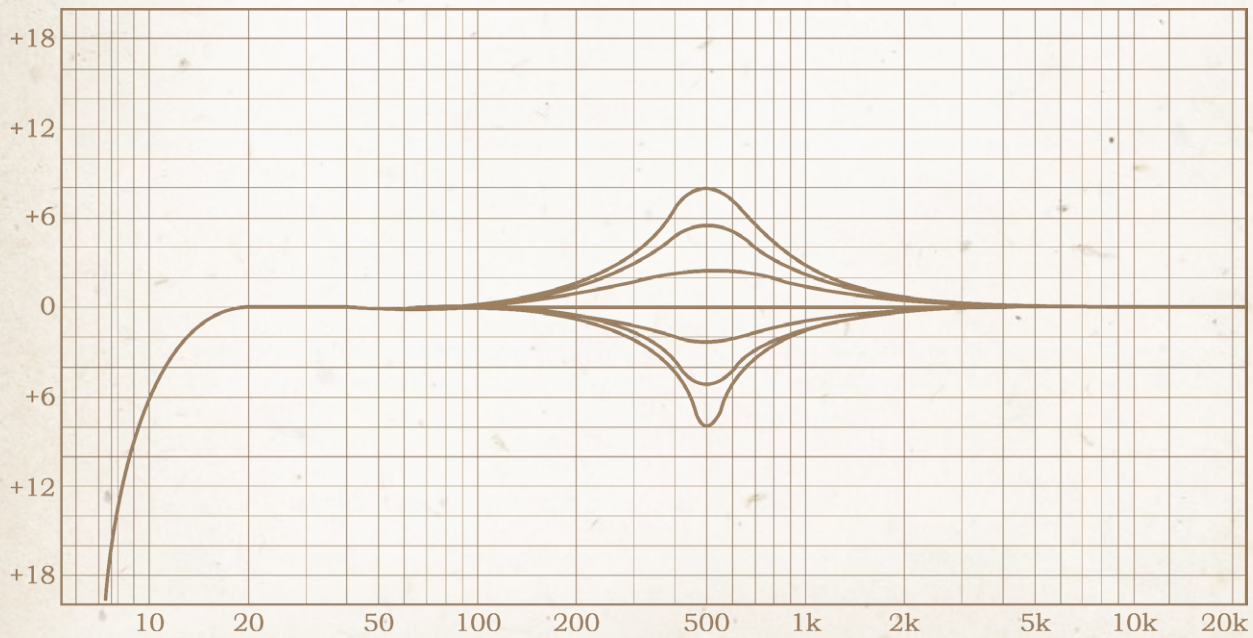
LMF band - Freq. 1.8 kHz - Q: Shelf



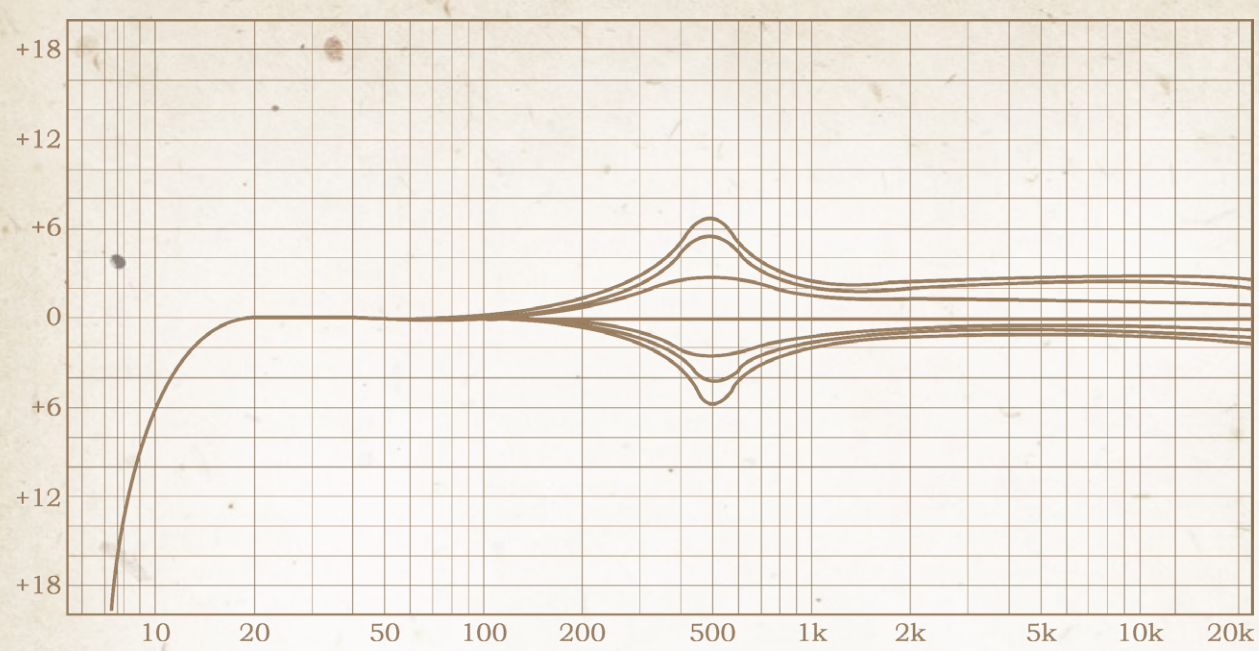
HMF band - Freq. 0.56 kHz - Q: 0.5



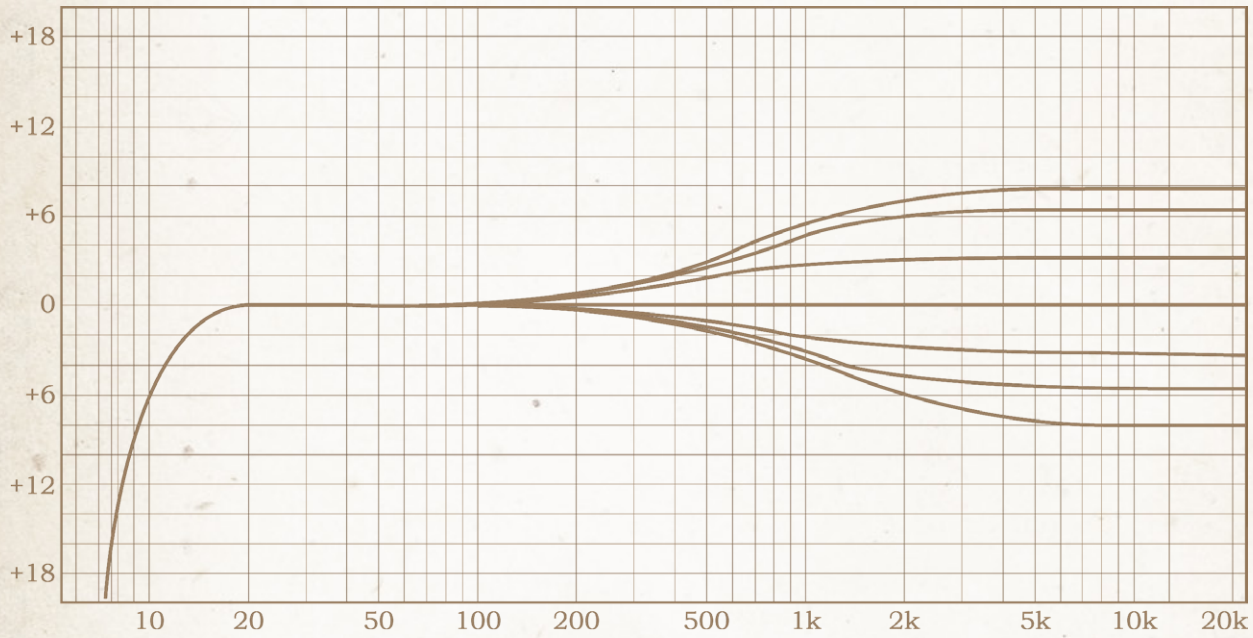
HMF band - Freq. 0.56 kHz - Q: 0.7



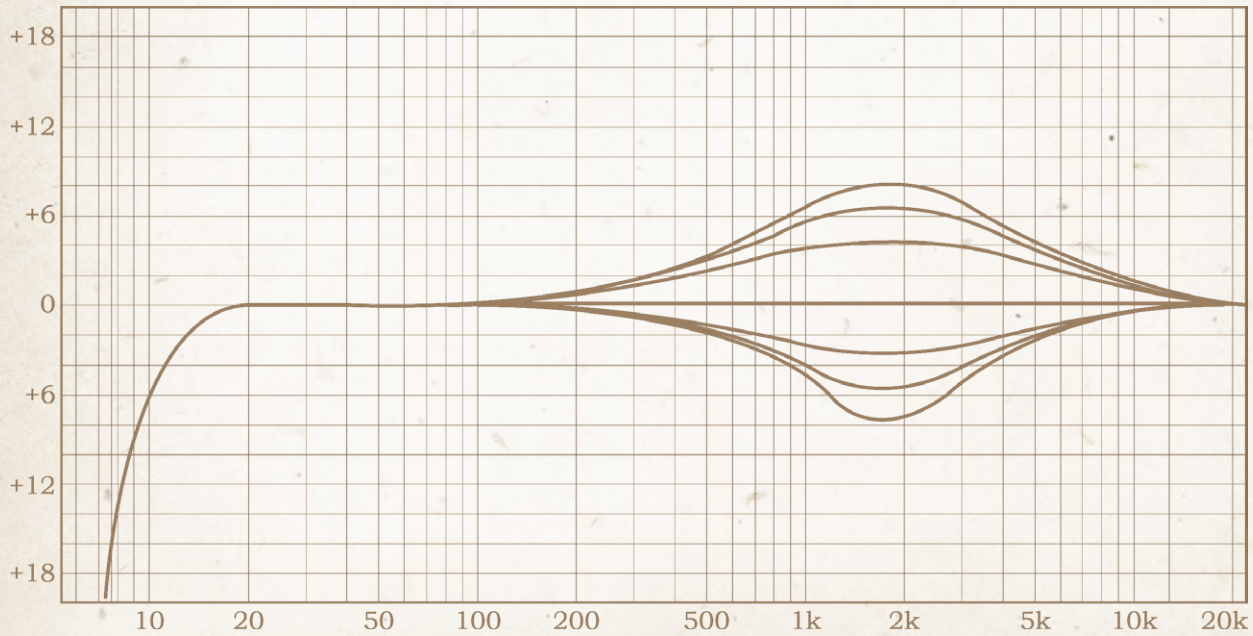
HMF band - Freq.0.56 kHz - Q: 1



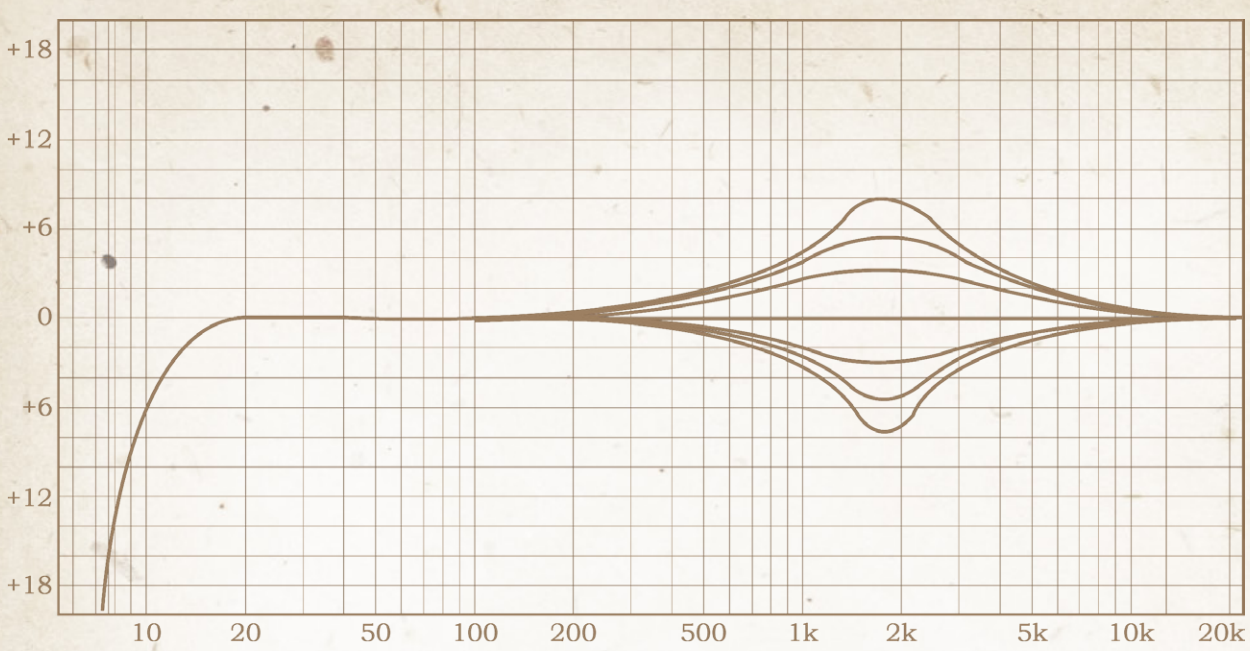
HMF band - Freq. 0.56 kHz - Q: 1.5



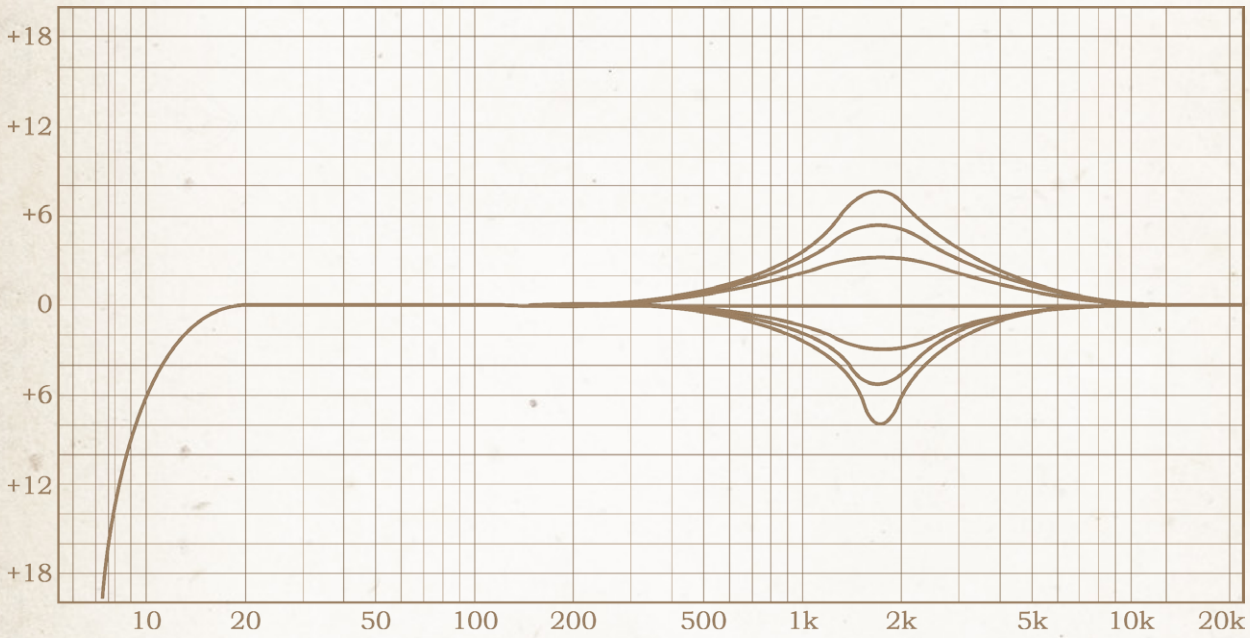
HMF band - Freq. 0.56 kHz - Q: Shelf



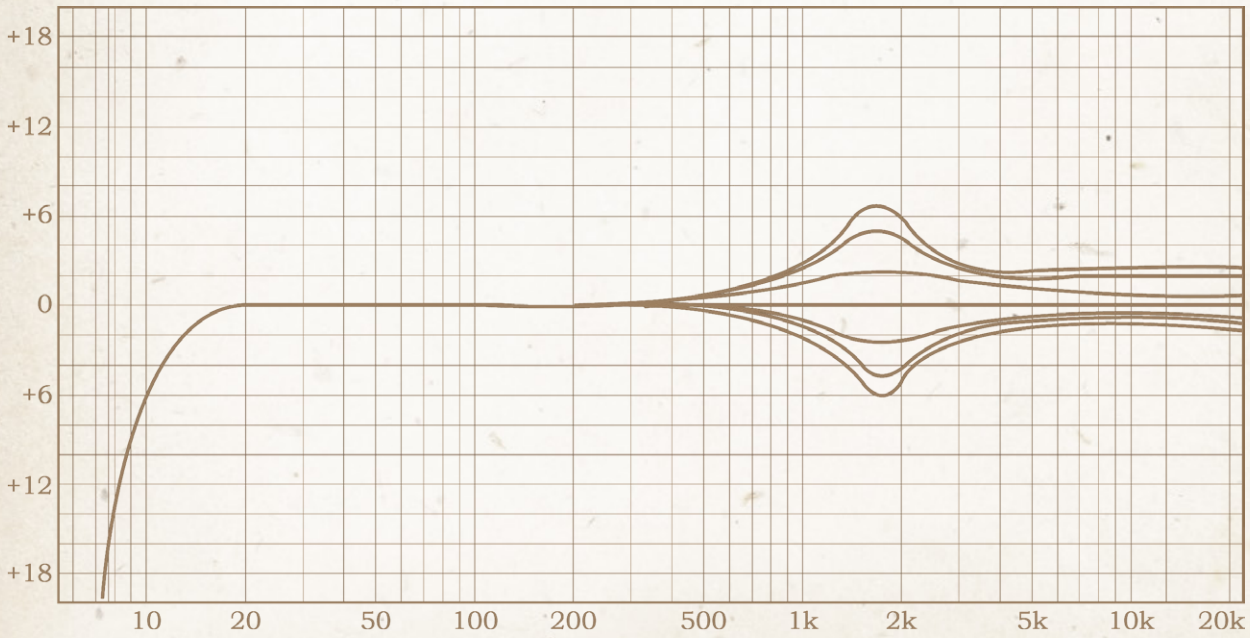
HMF band - Freq. 1.8 kHz - Q: 0.5



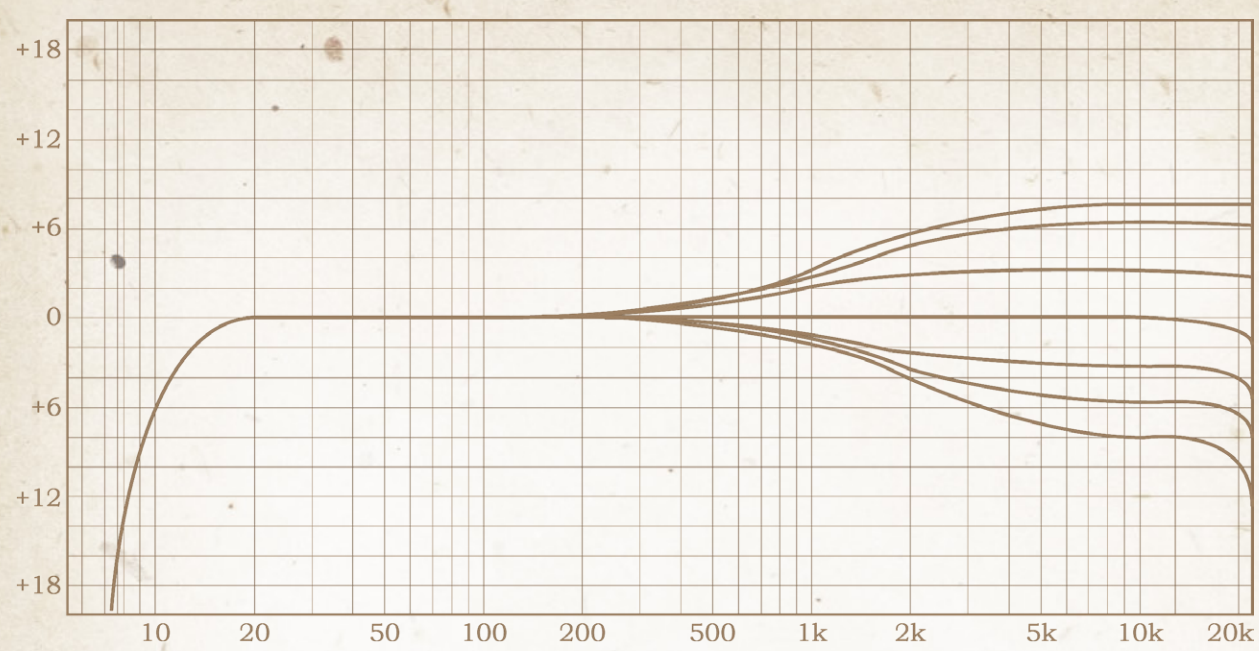
HMF band - Freq. 1.8 kHz - Q: 0.7



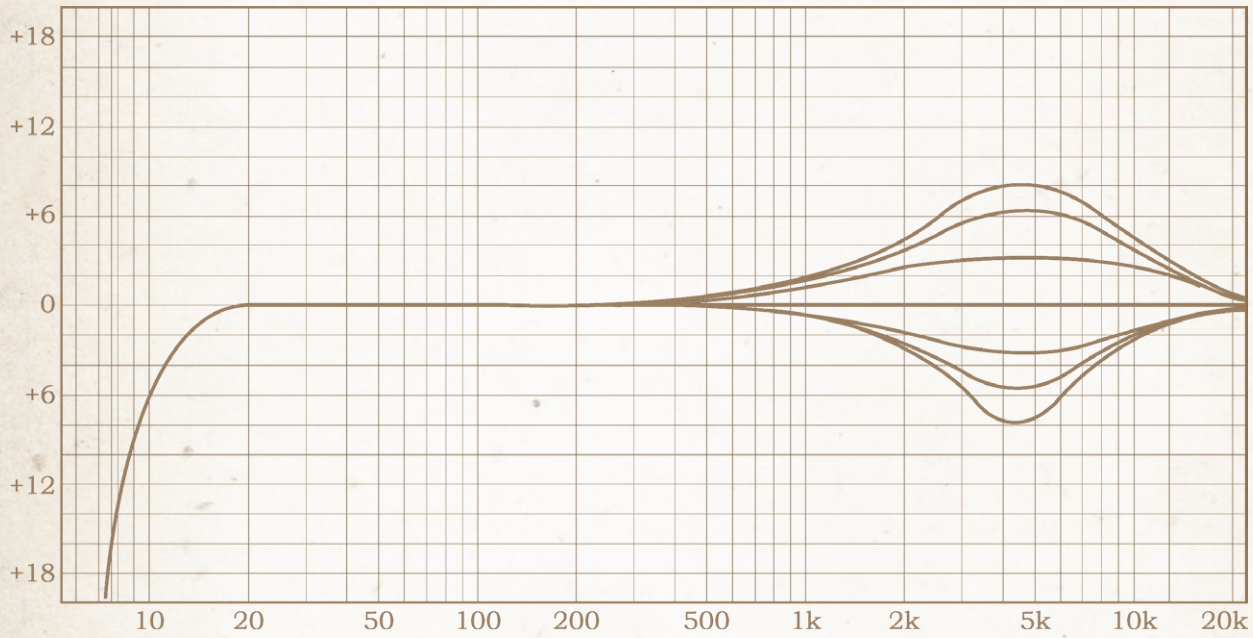
HMF band - Freq. 1.8 kHz - Q: 1



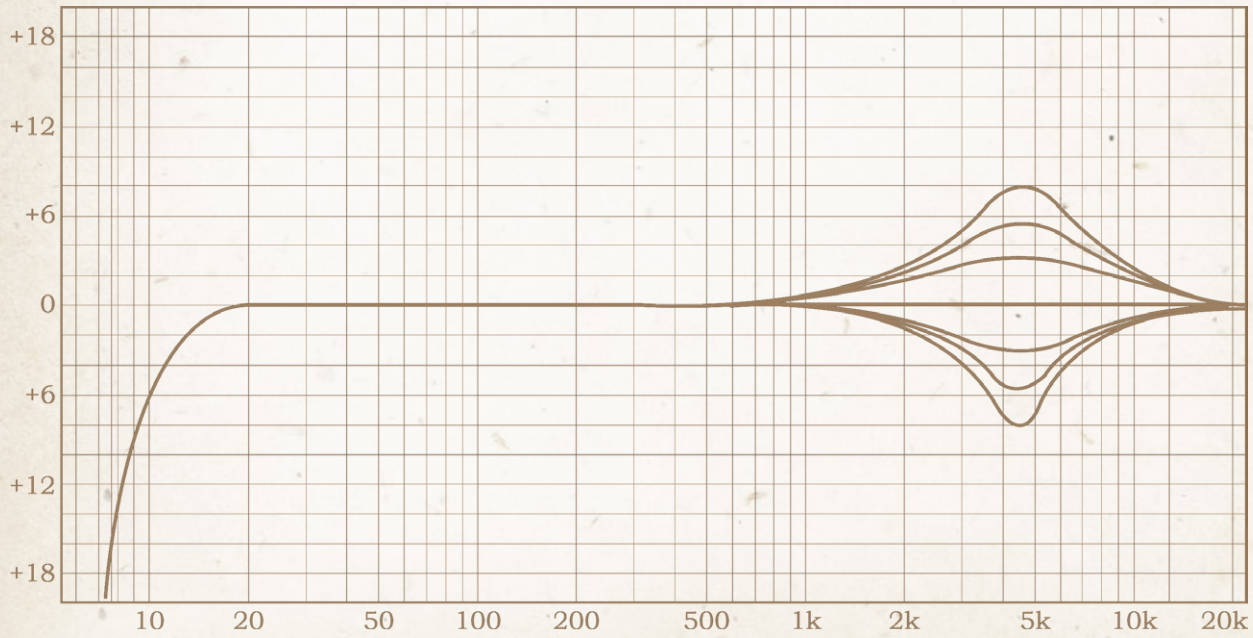
HMF band - Freq. 1.8 kHz - Q: 1.5



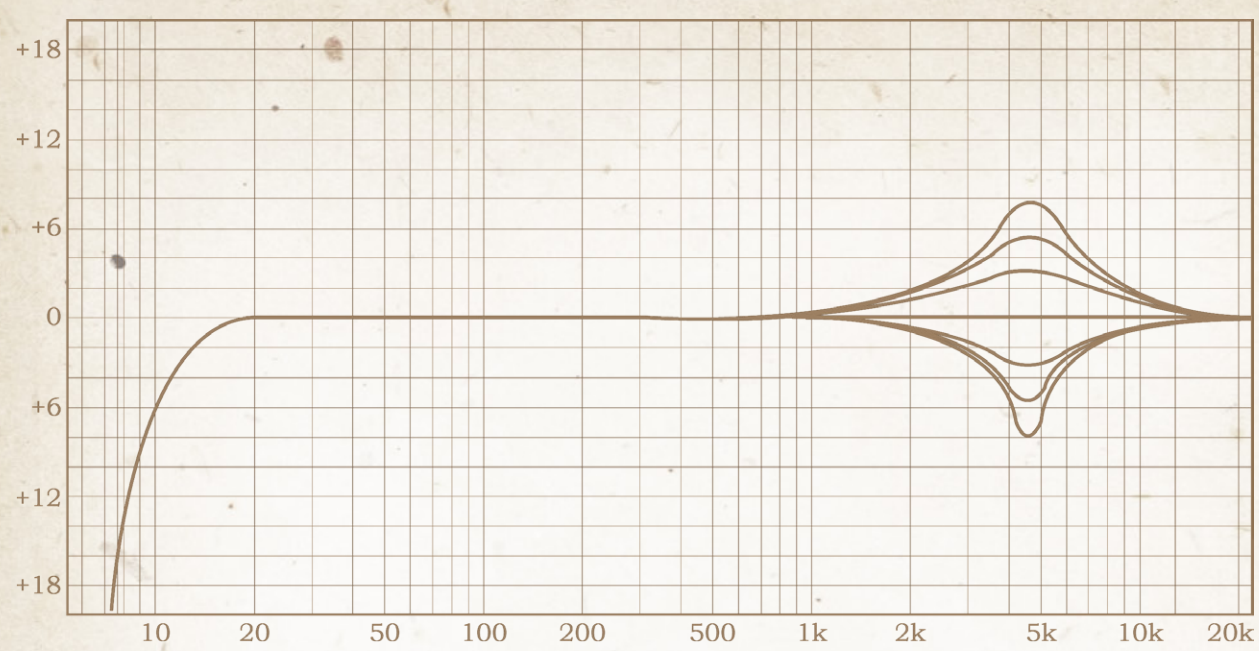
HMF band - Freq. 1.8 kHz - Q: Shelf



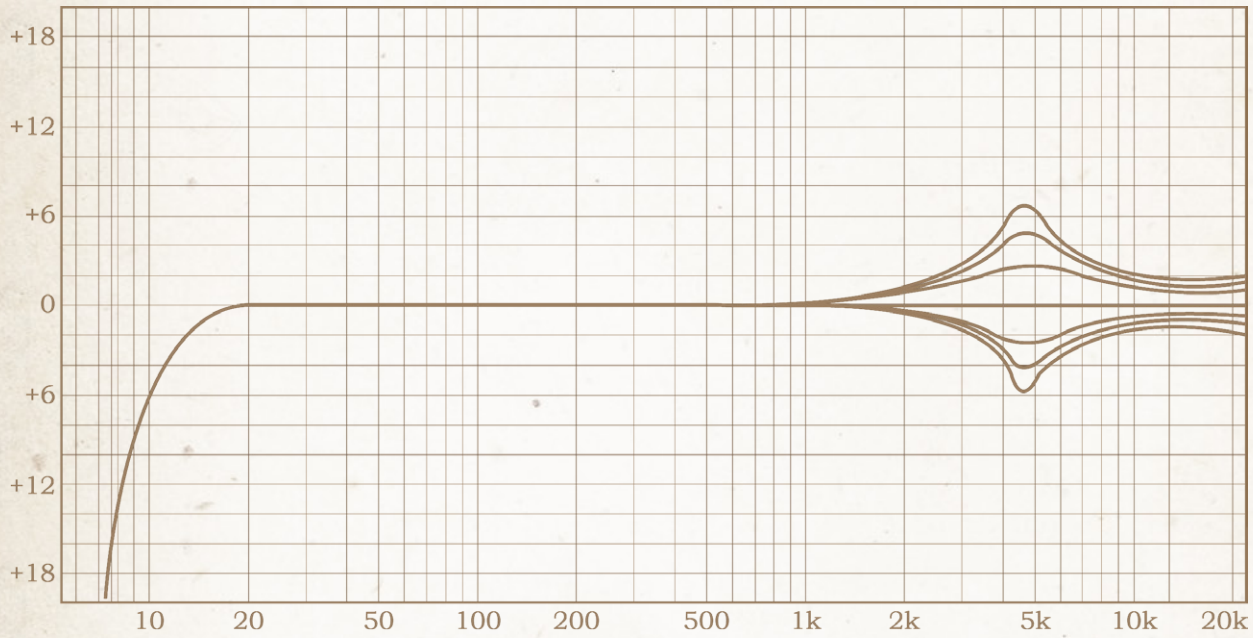
HMF band - Freq. 4.7 kHz - Q: 0.5



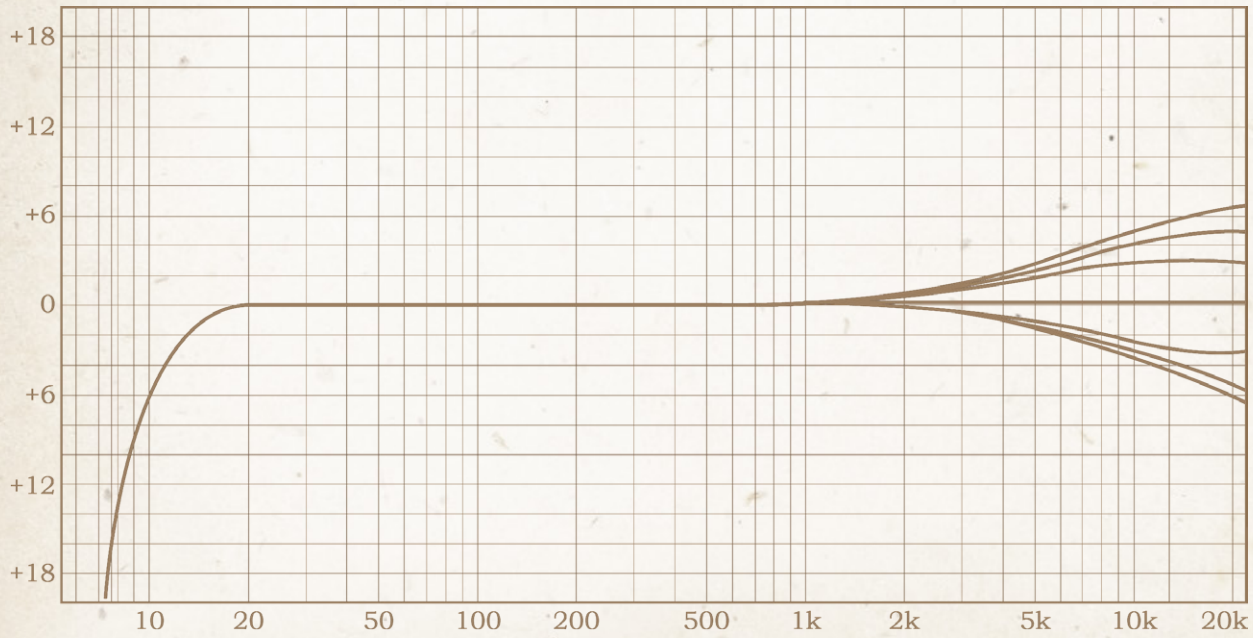
HMF band - Freq. 4.7 kHz - Q: 0.7



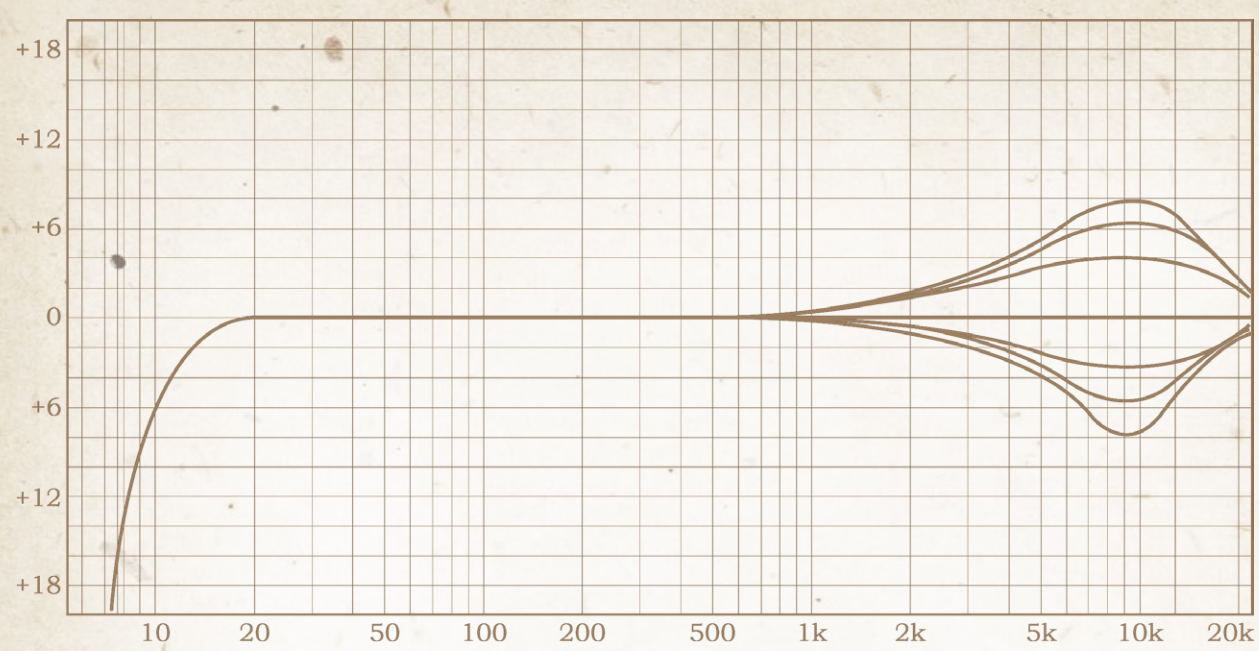
HMF band - Freq. 4.7 kHz - Q: 1



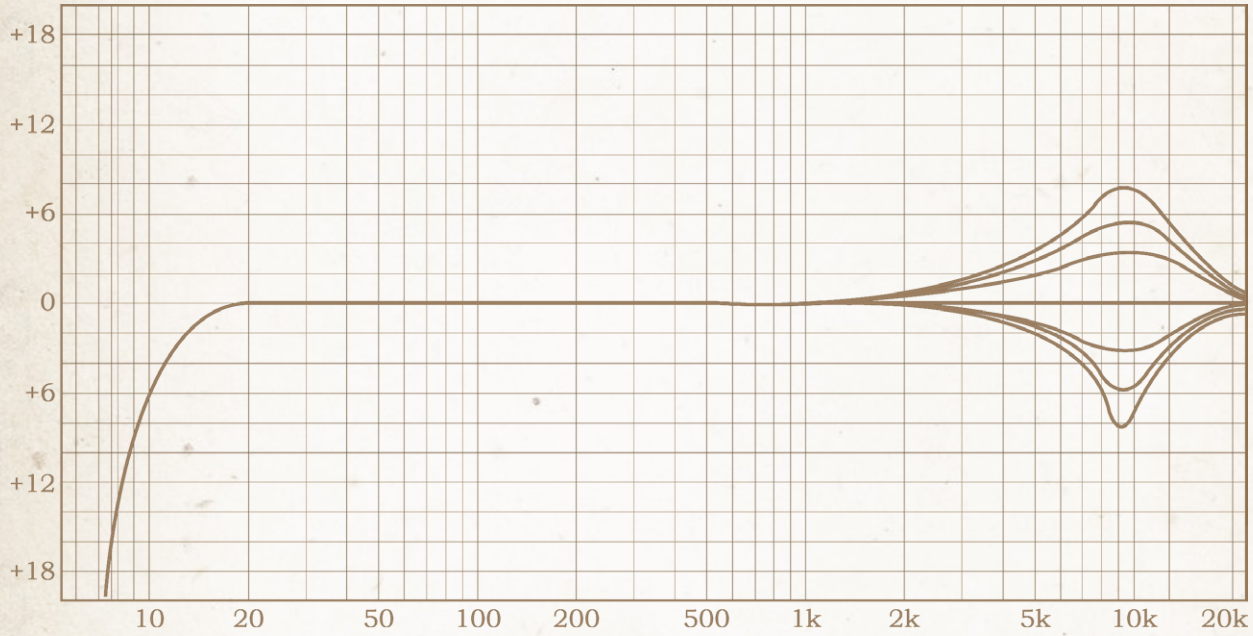
HMF band - Freq. 4.7 kHz - Q: 1.5



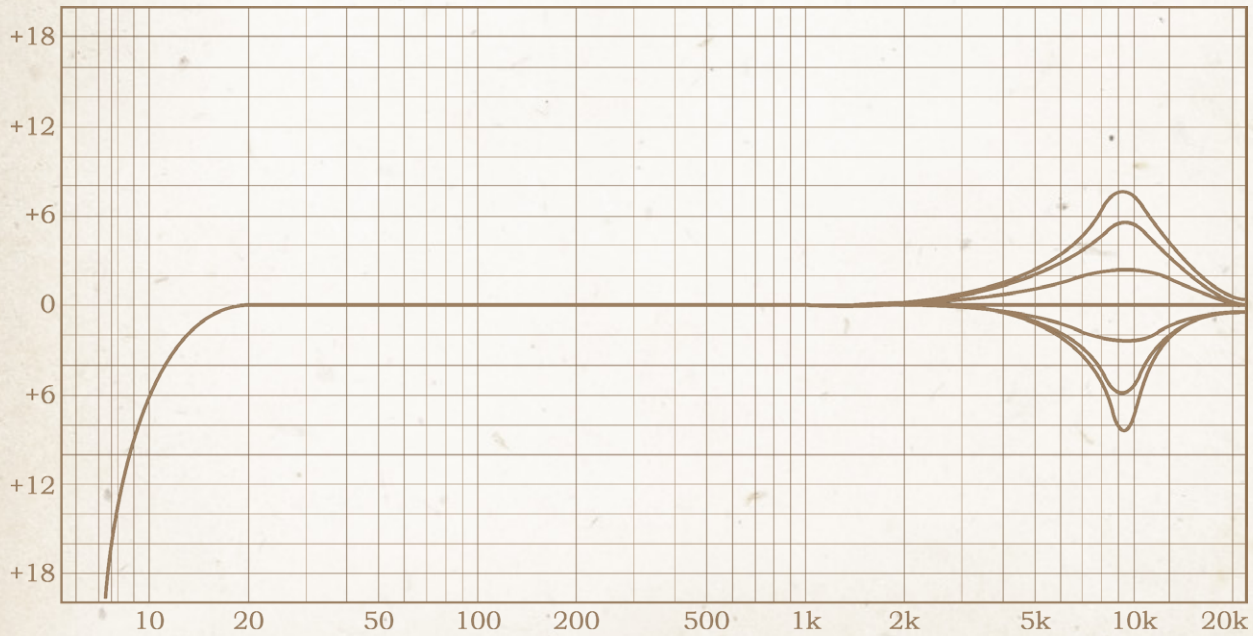
HMF band - Freq. 4.7 kHz - Q: Shelf



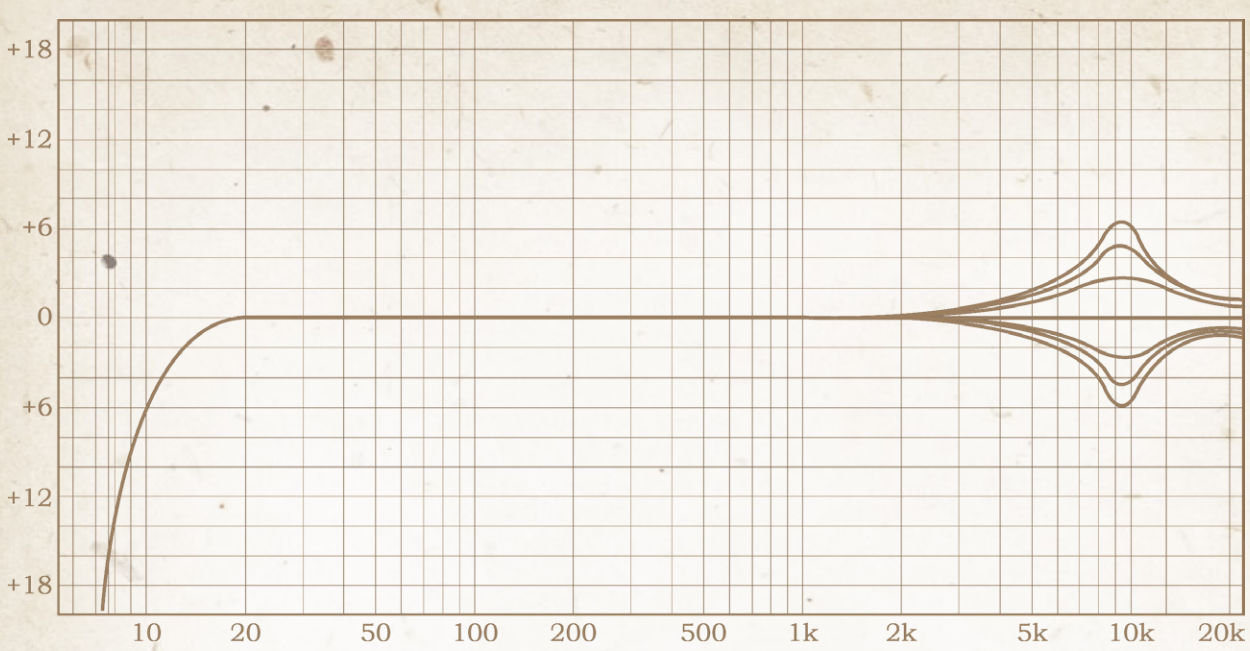
HMF band - Freq. 10 kHz - Q: 0.5



HMF band - Freq. 10 kHz - Q: 0.7



HMF band - Freq. 10 kHz - Q: 1



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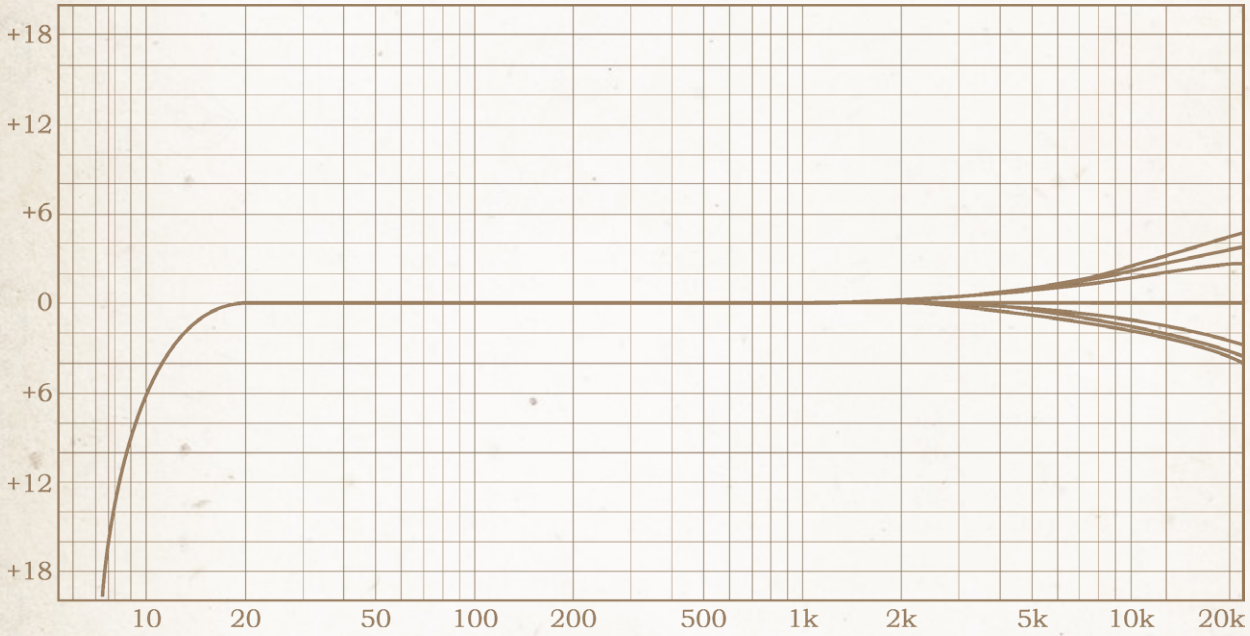
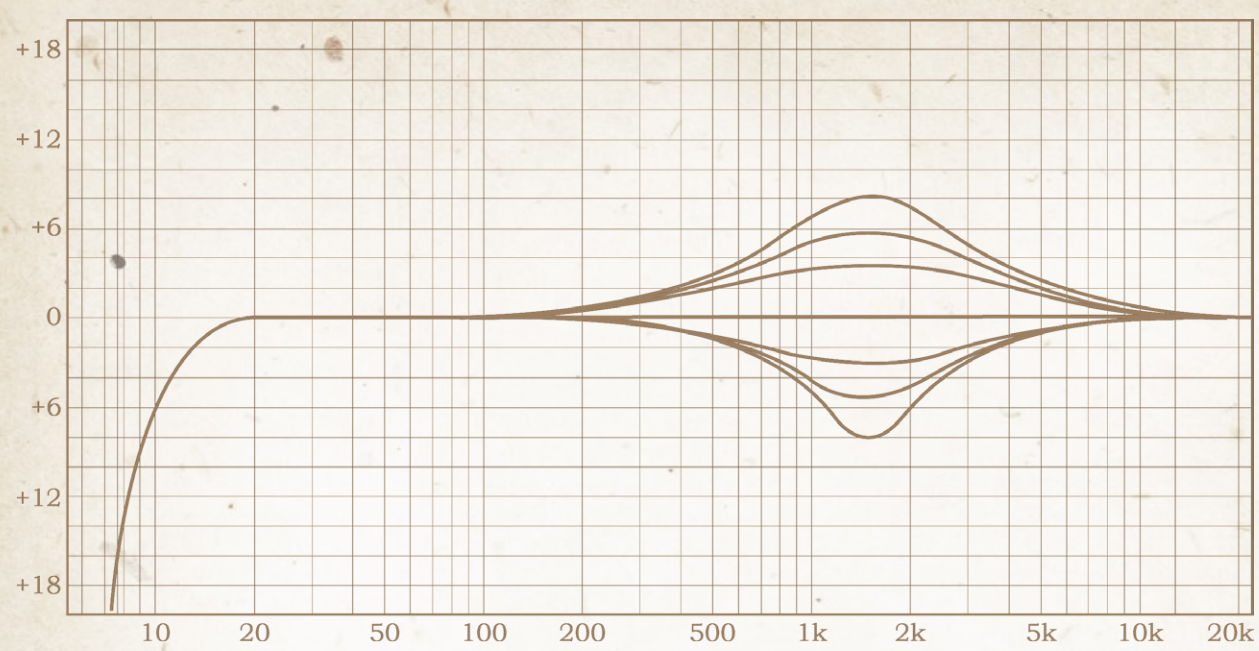
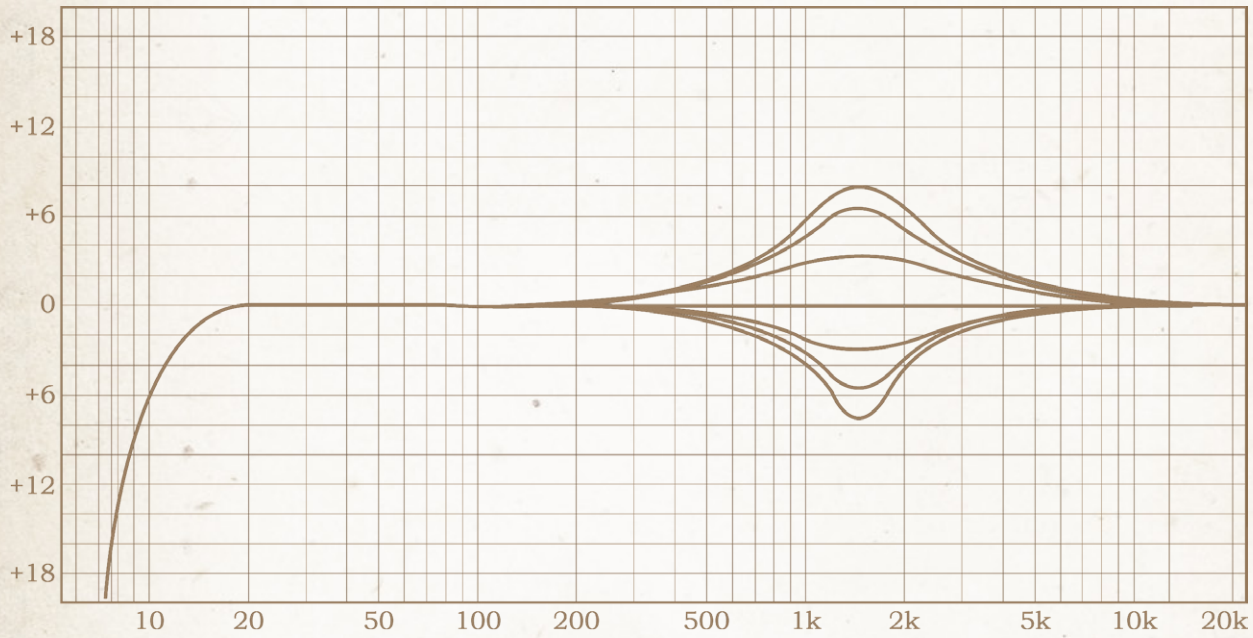


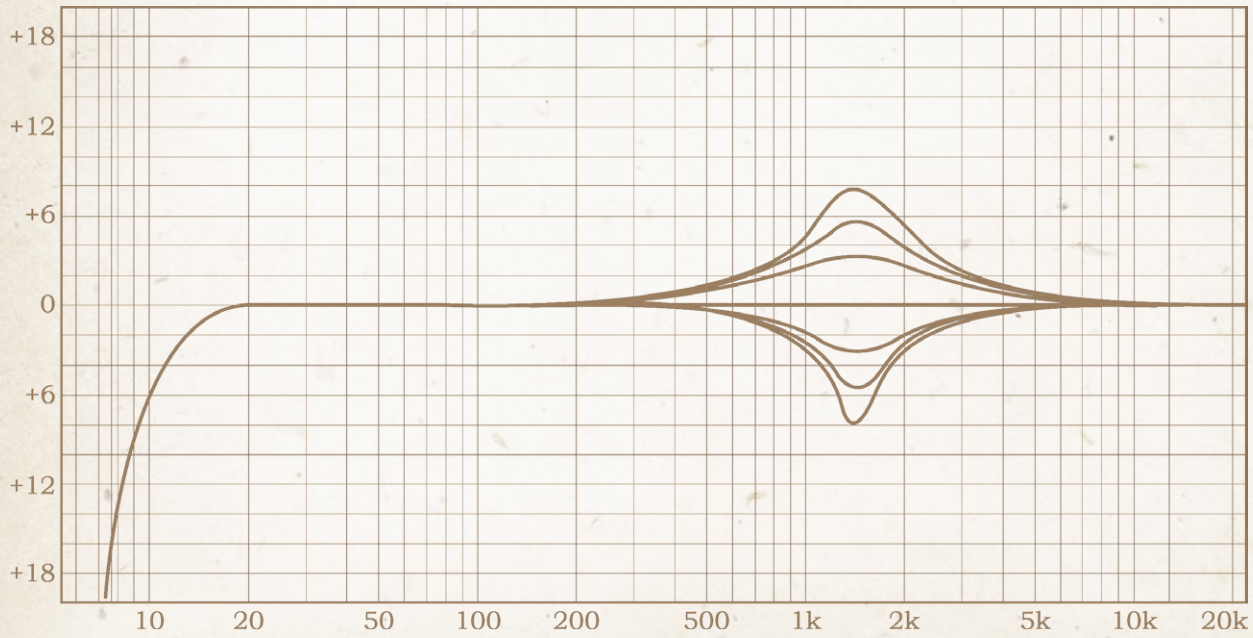
HMF band - Freq. 10 kHz - Q: Shelf



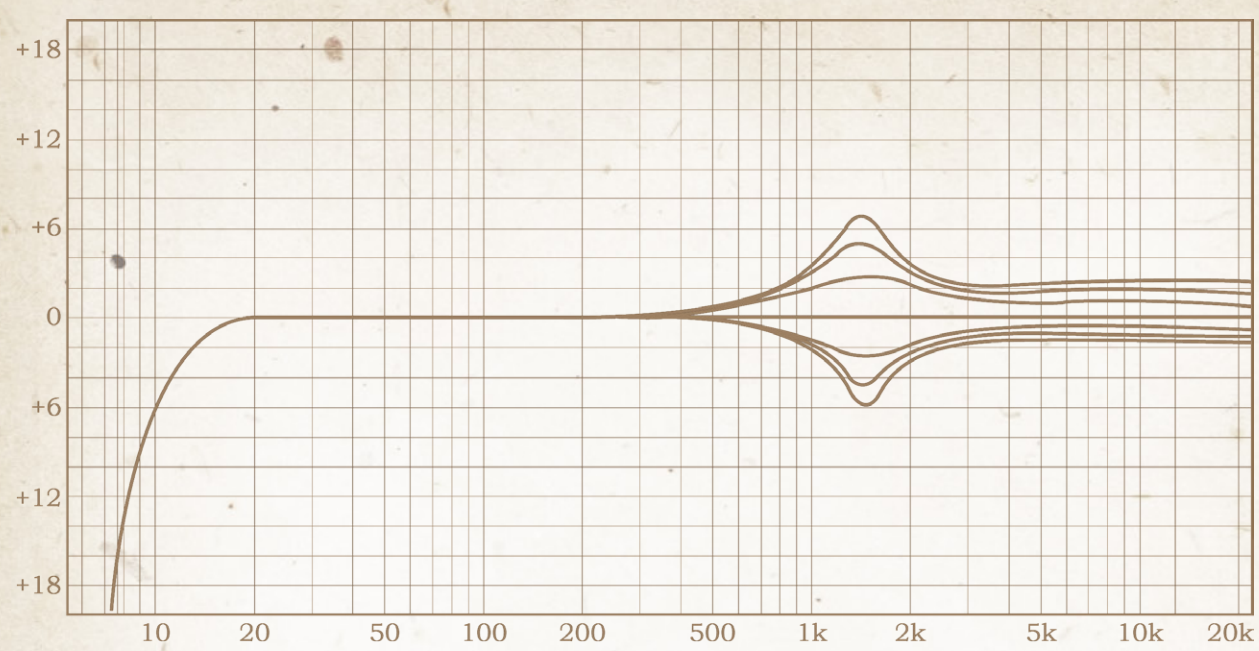
HF band - Freq. 1.5 kHz - Q: 0.5



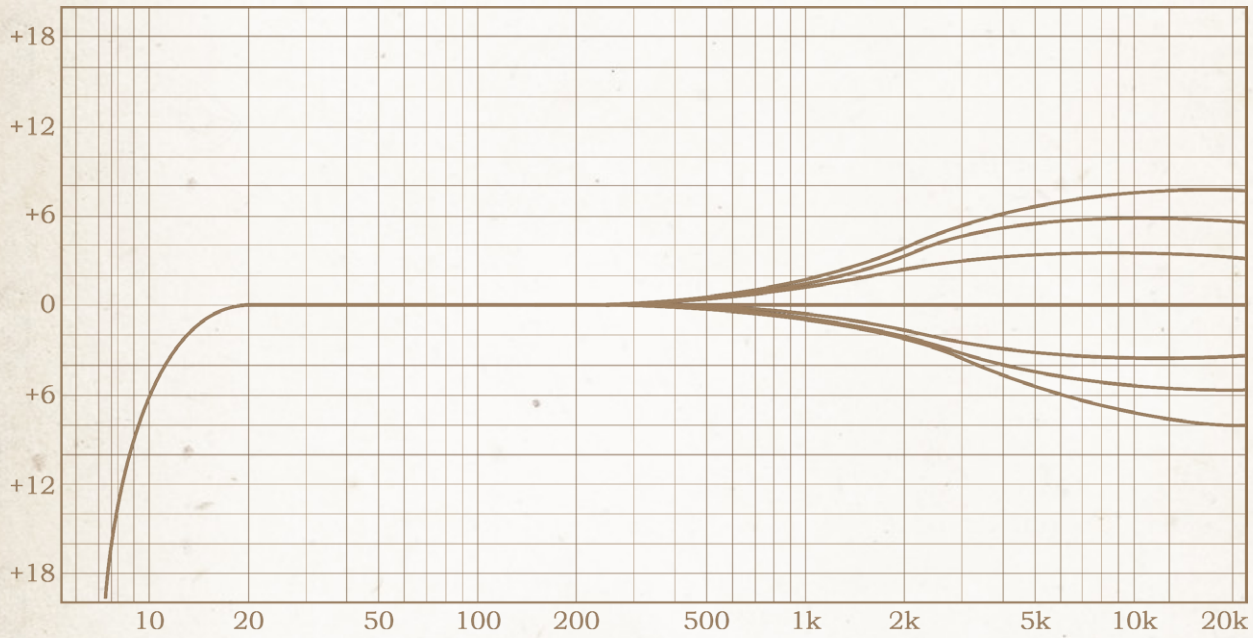
HF band - Freq. 1.5 kHz - Q: 0.7



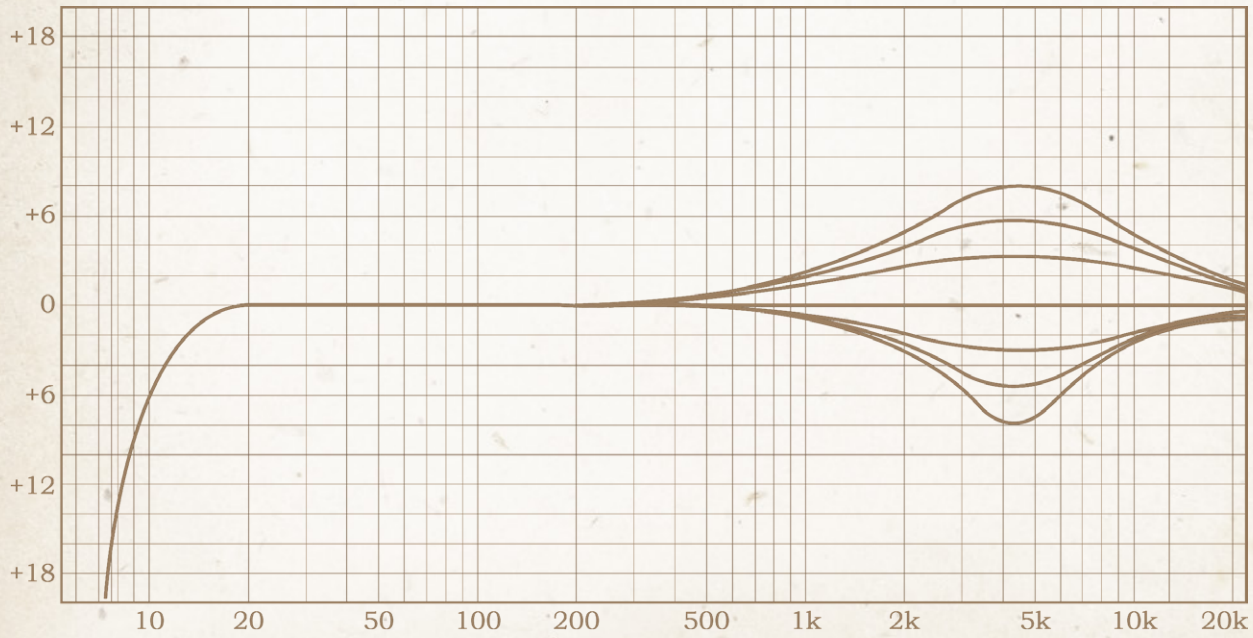
HF band - Freq. 1.5 kHz - Q: 1



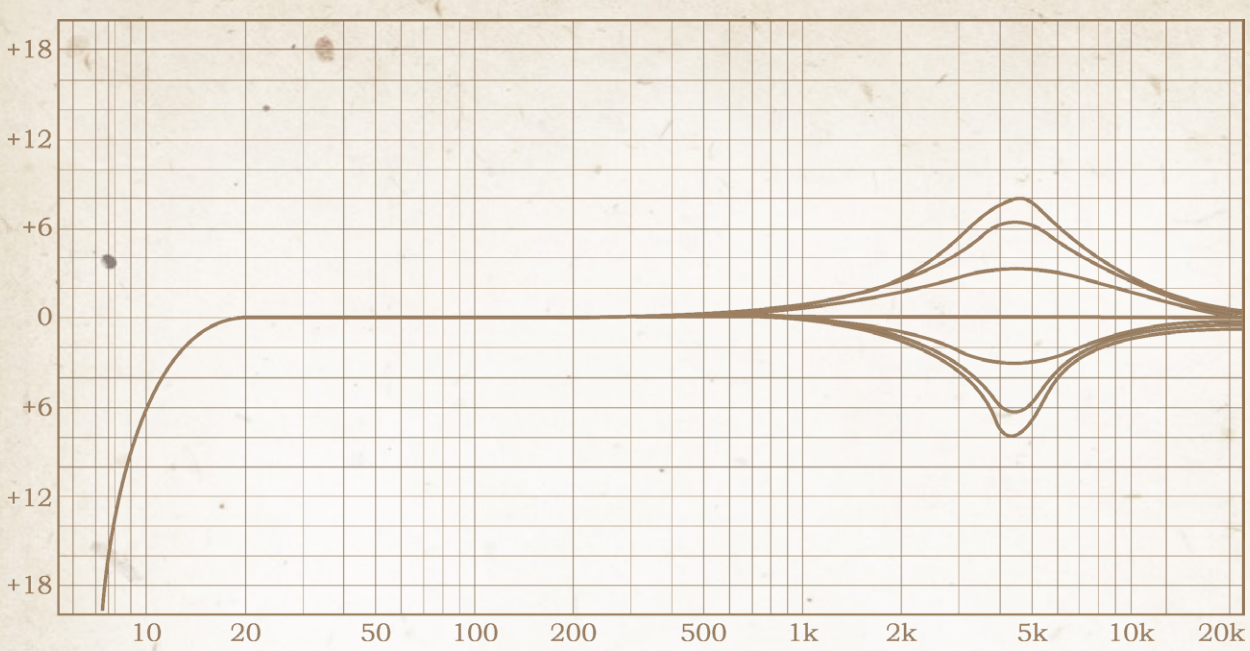
HF band - Freq. 1.5 kHz - Q: 1.5



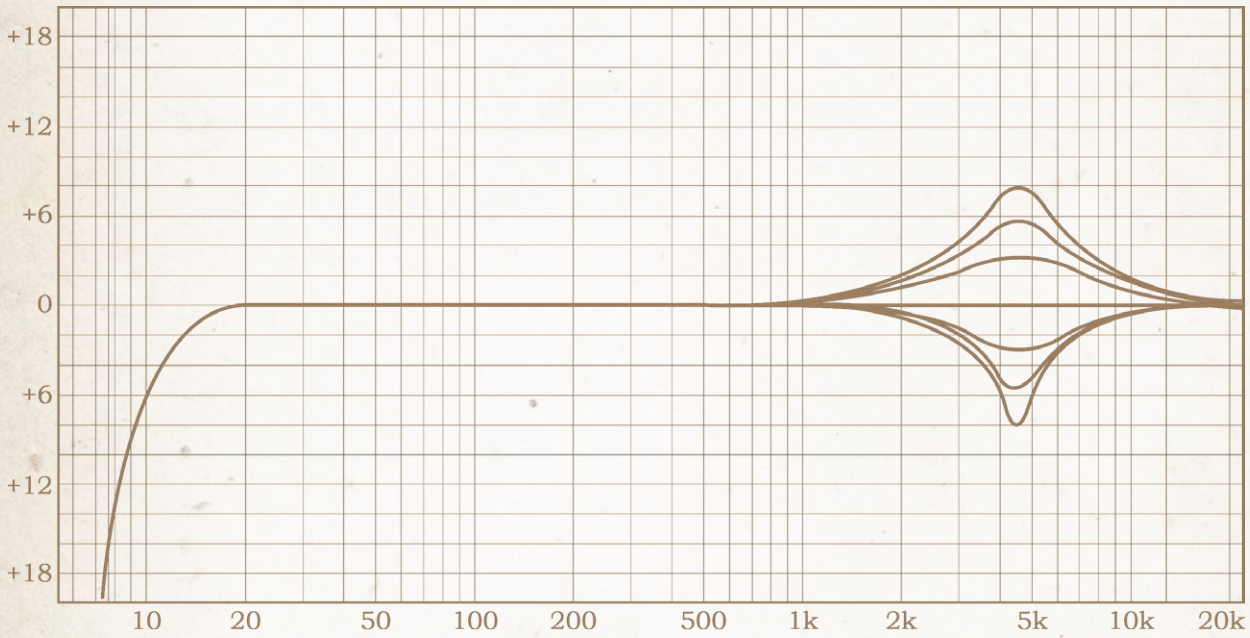
HF band - Freq. 1.8 kHz - Q: Shelf



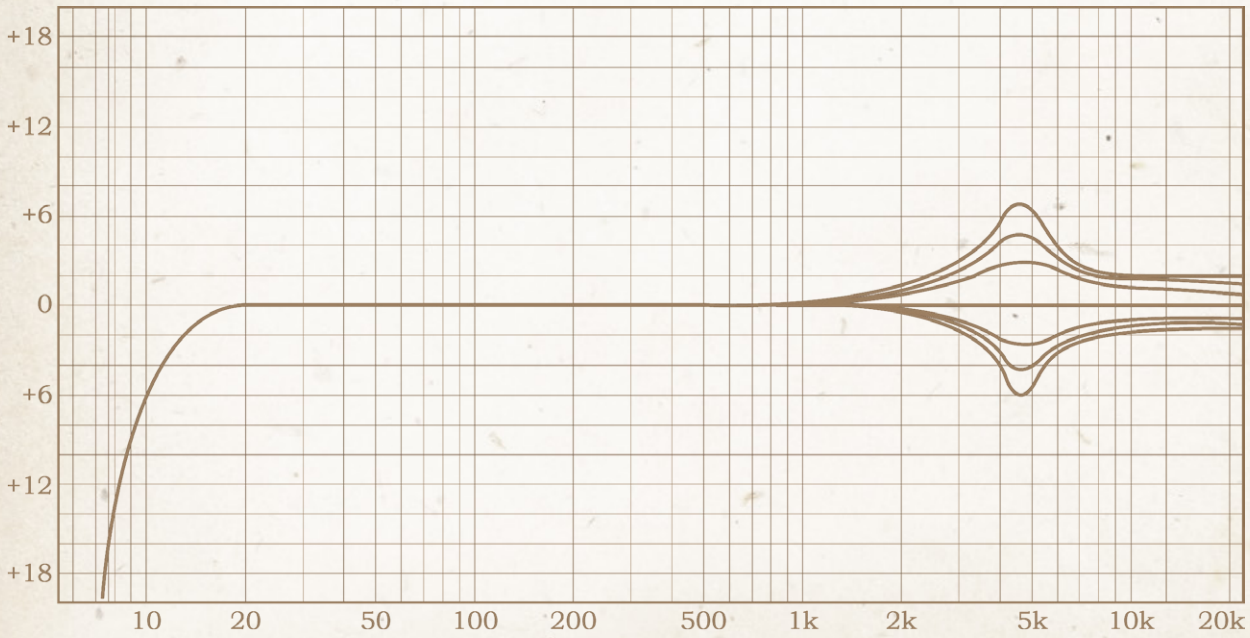
HF band - Freq. 4.7 kHz - Q: 0.5



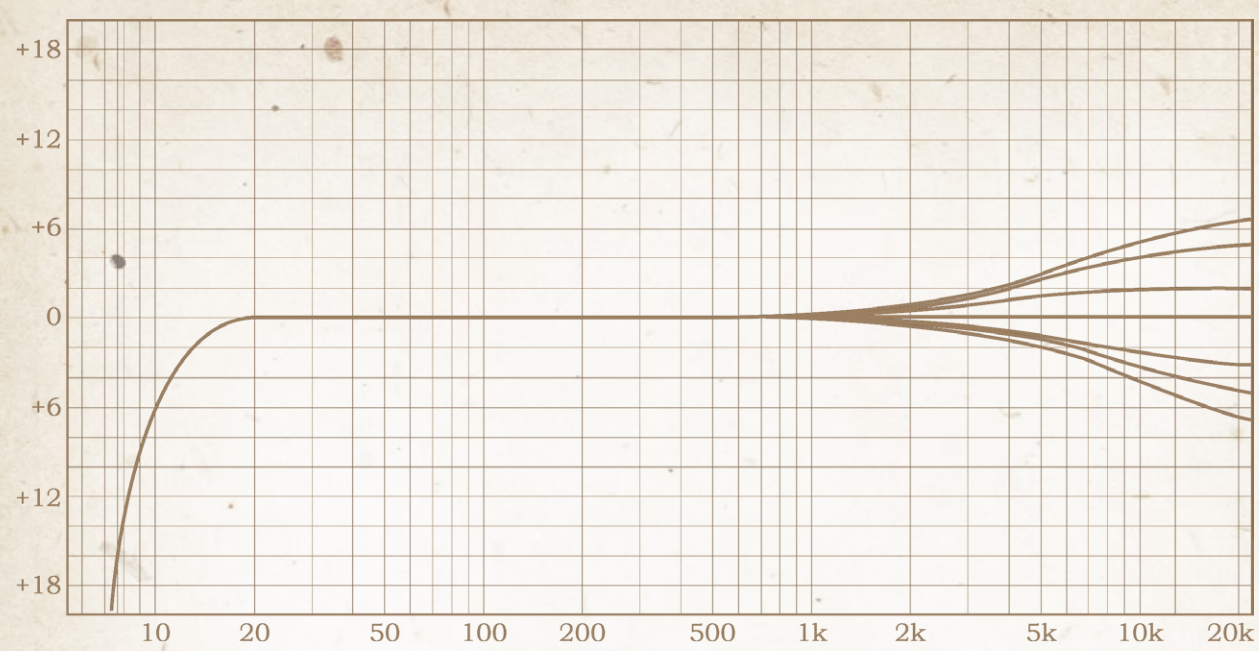
HF band - Freq. 4.7 kHz - Q: 0.7



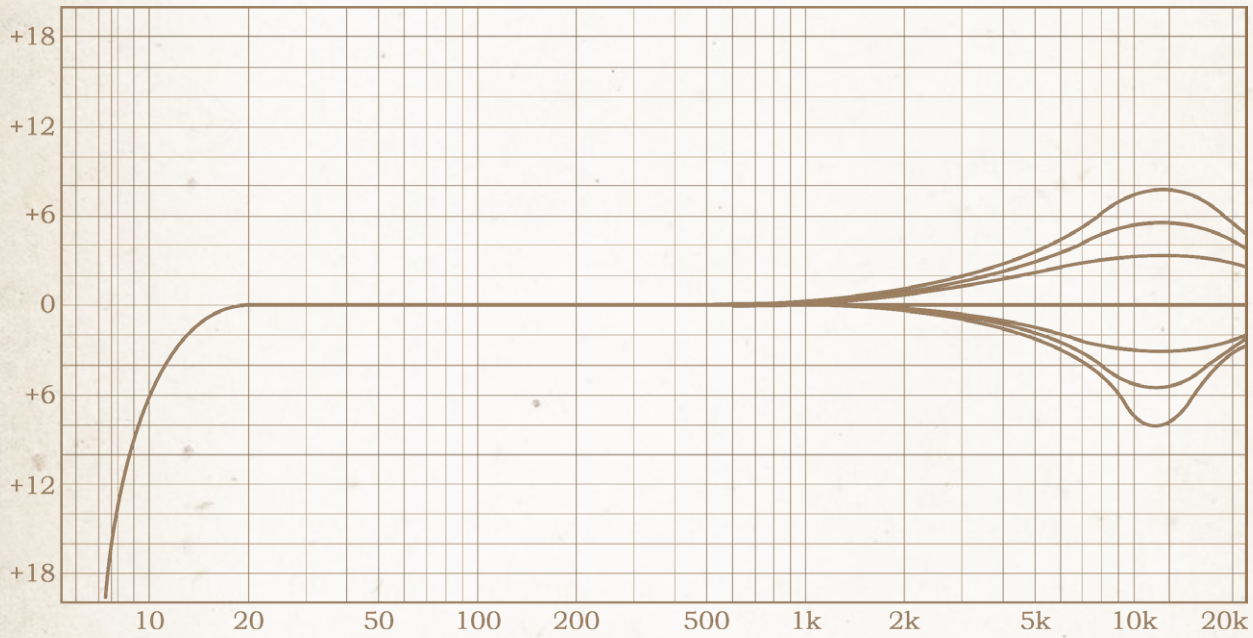
HF band - Freq. 4.7 kHz - Q: 1



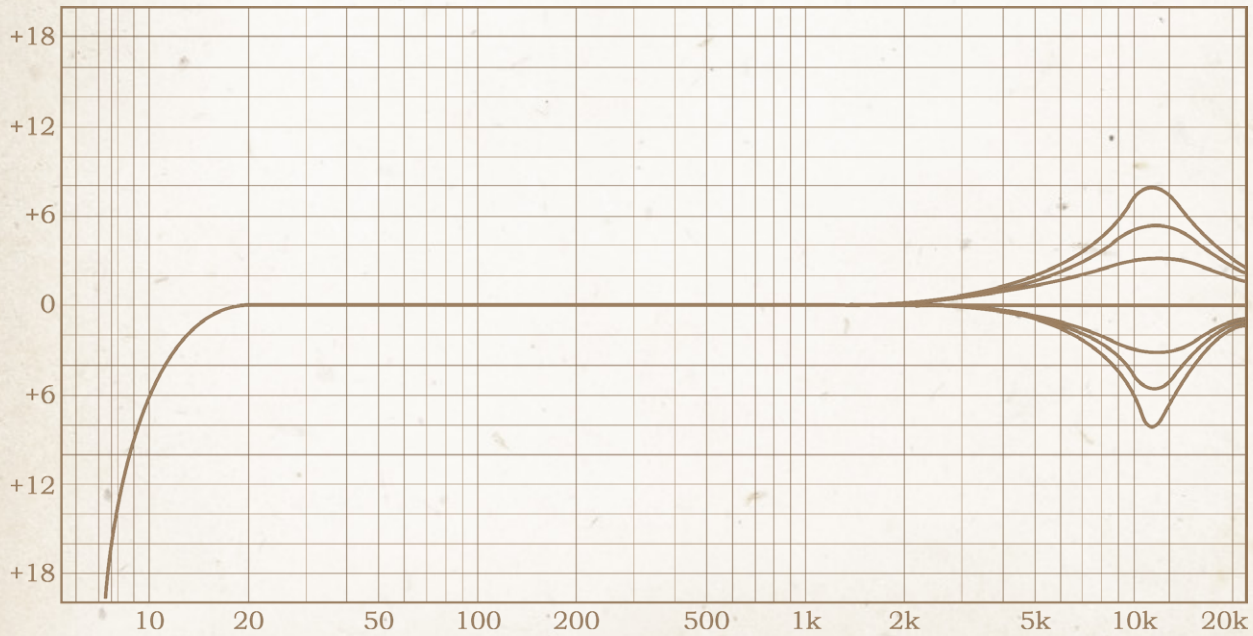
HF band - Freq. 4.7 kHz - Q: 1.5



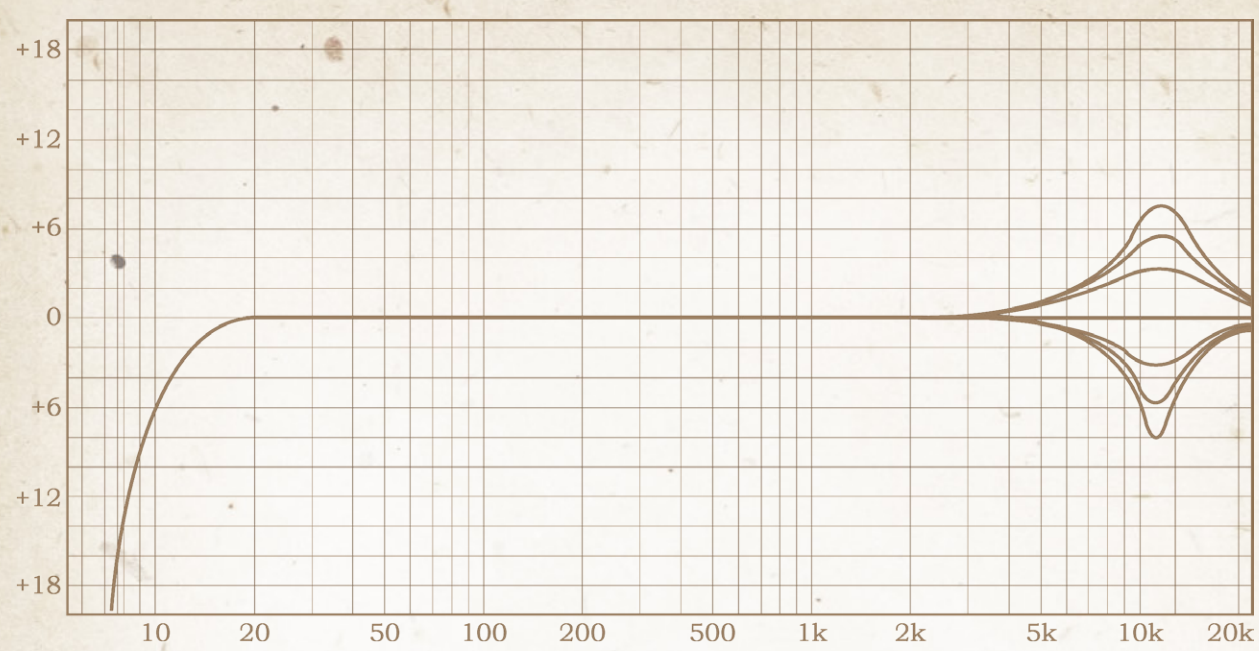
HF band - Freq. 4.7 kHz - Q: Shelf



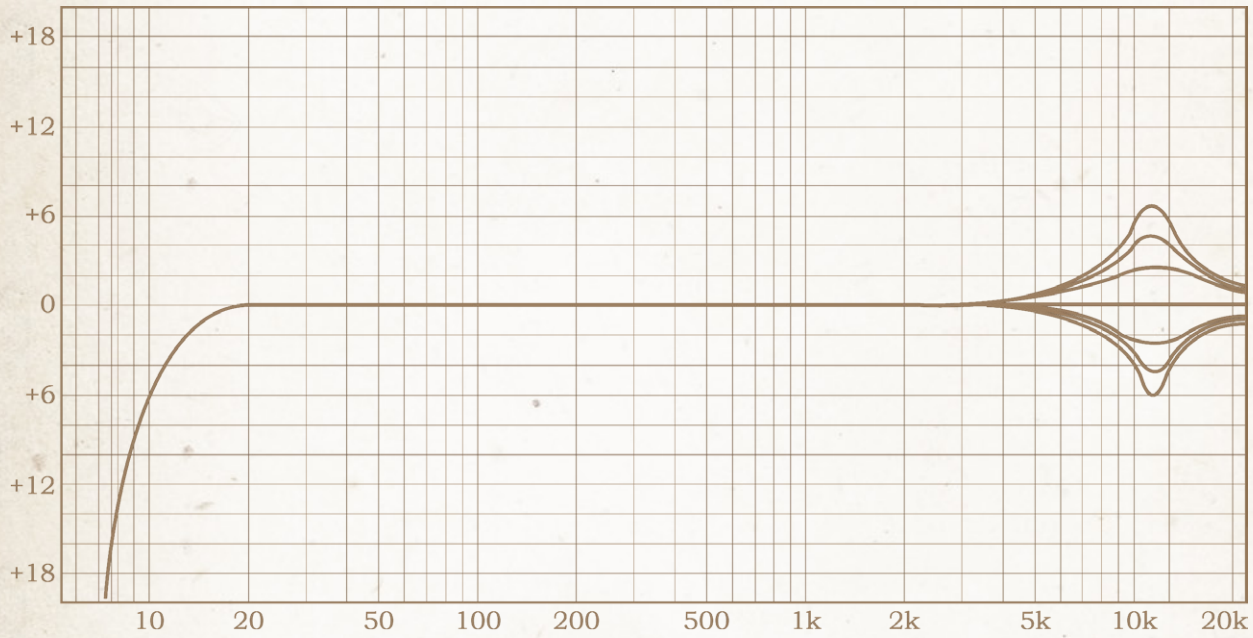
HF band - Freq. 12 kHz - Q: 0.5



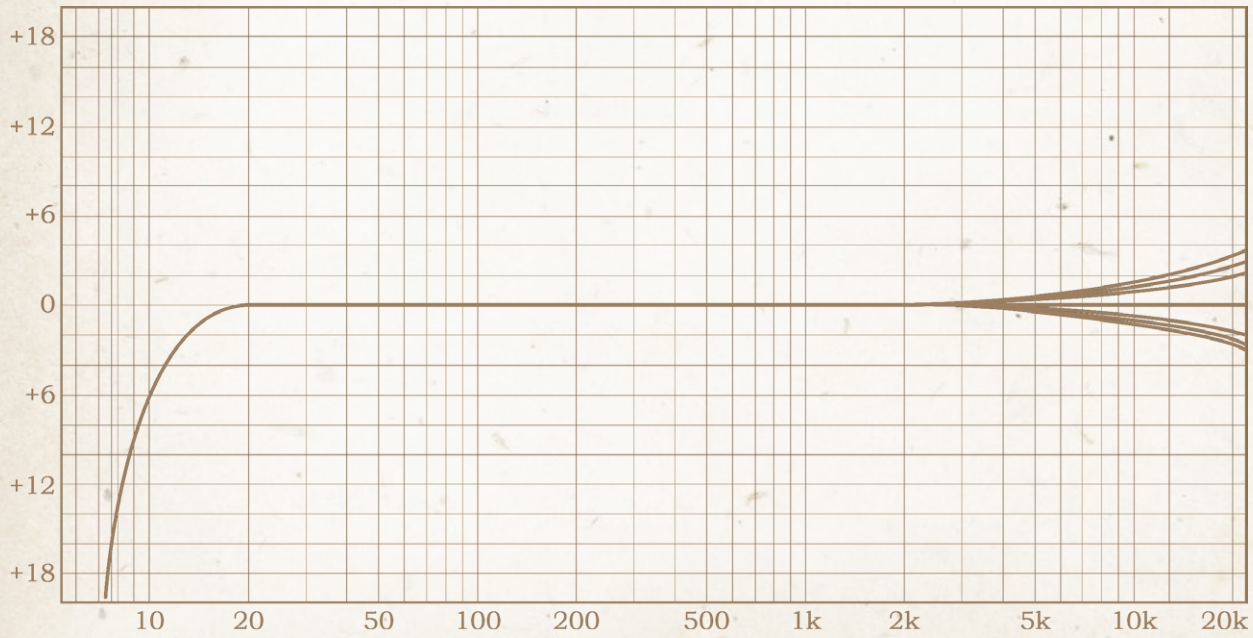
HF band - Freq. 12 kHz - Q: 0.7



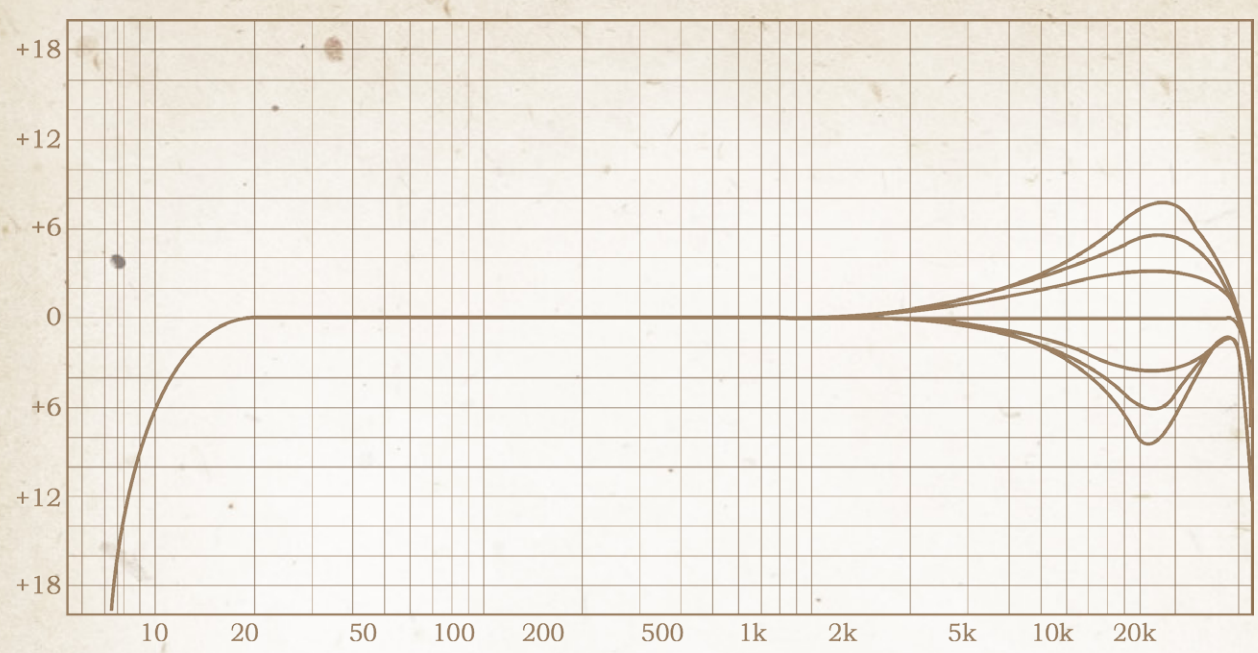
HF band - Freq. 12 kHz - Q: 1



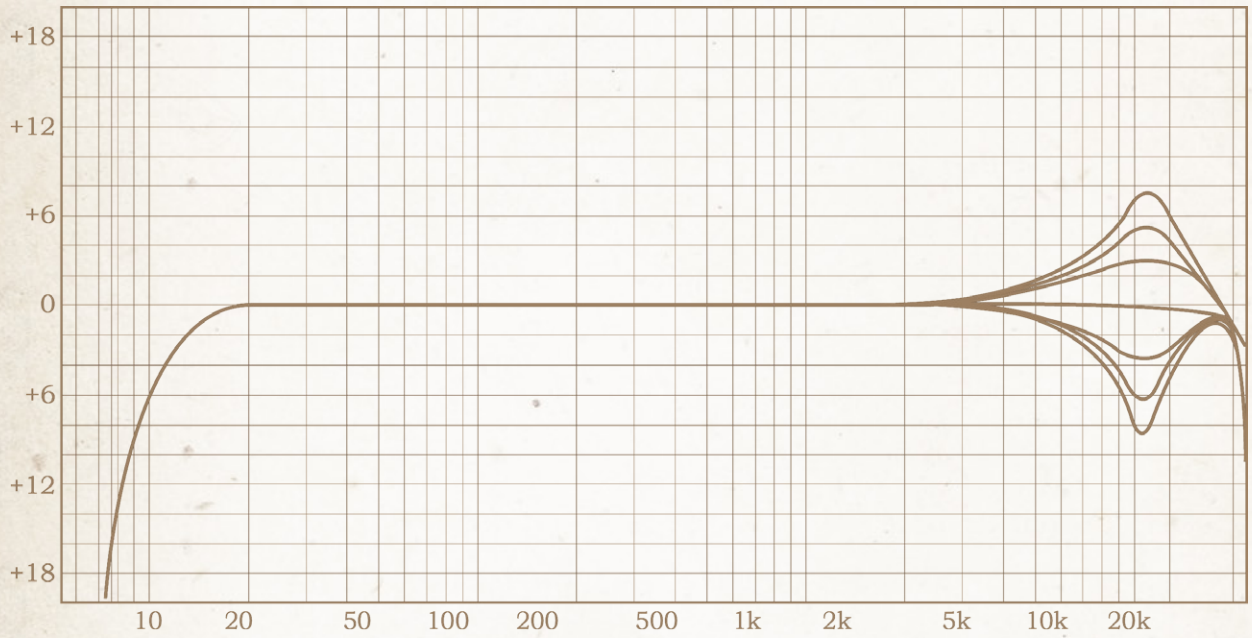
HF band - Freq. 12 kHz - Q: 1.5



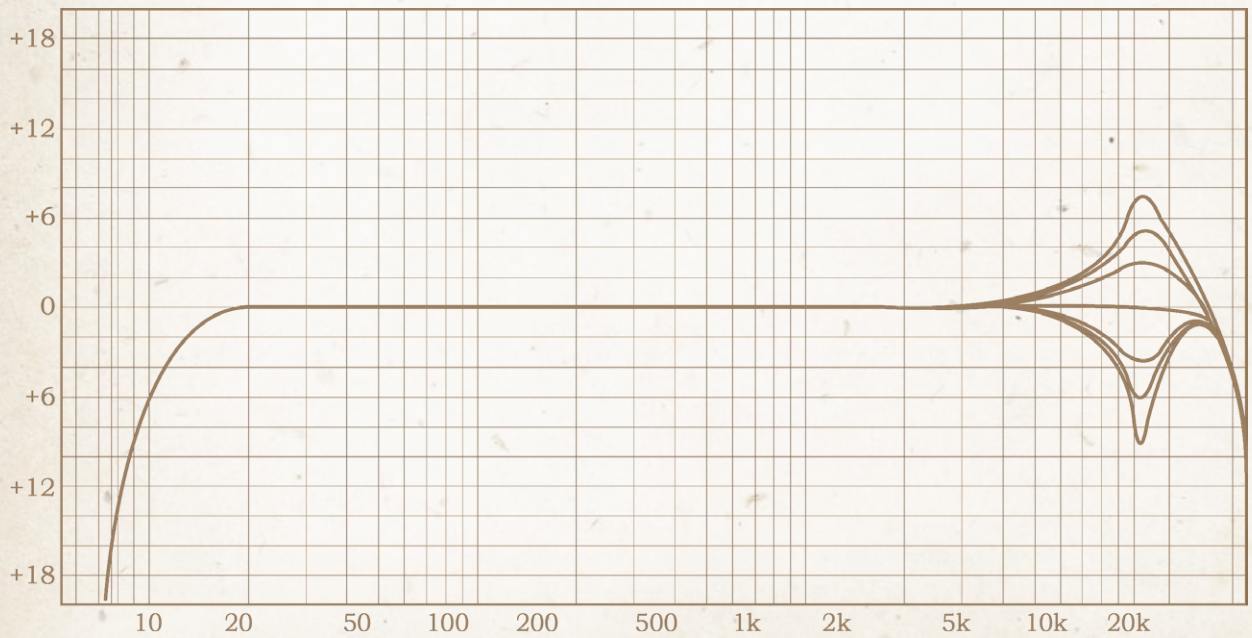
HF band - Freq. 12 kHz - Q: Shelf



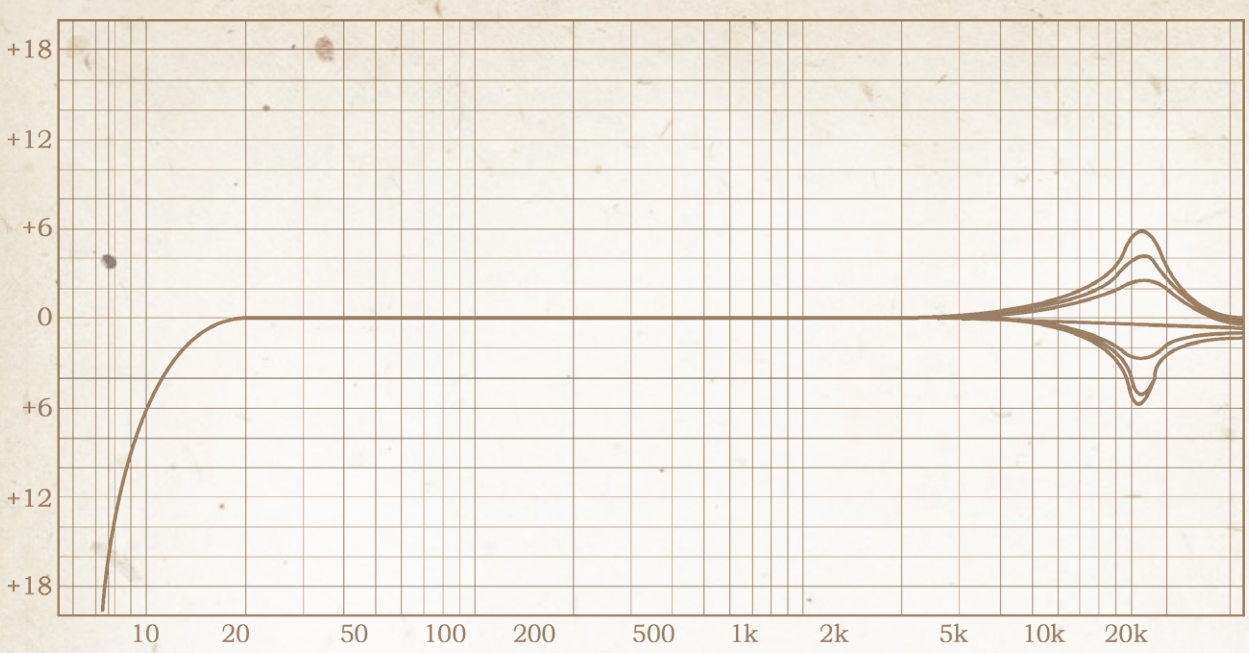
HF band - Freq. 27 kHz - Q: 0.5



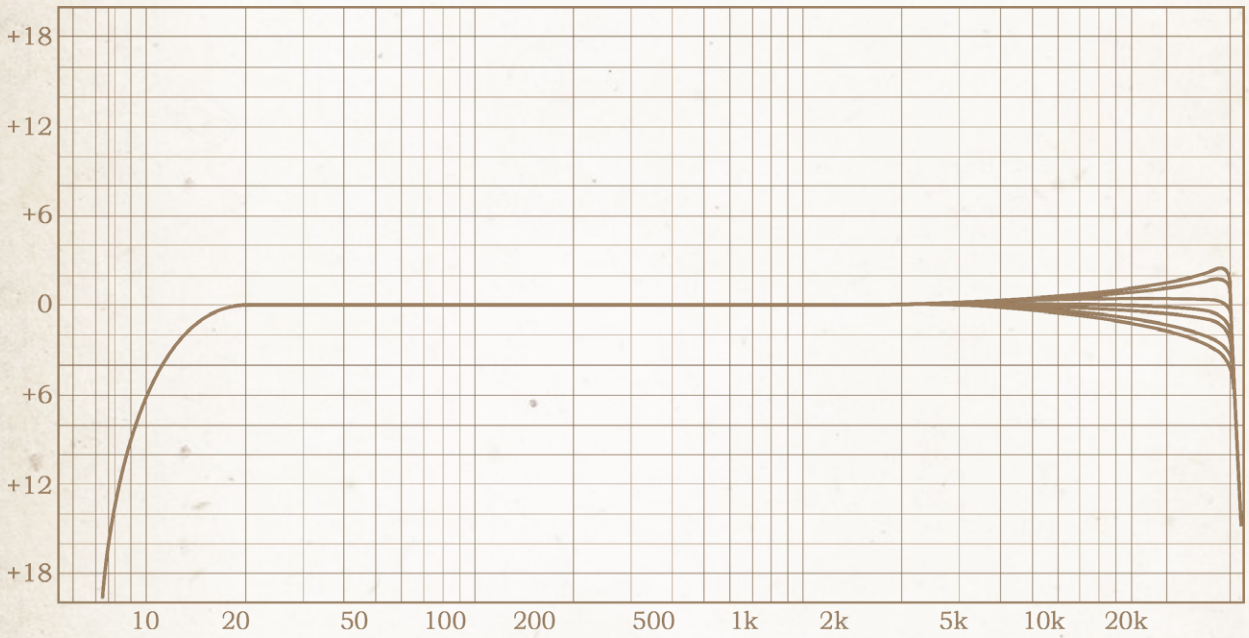
HF band - Freq. 27 kHz - Q: 0.7



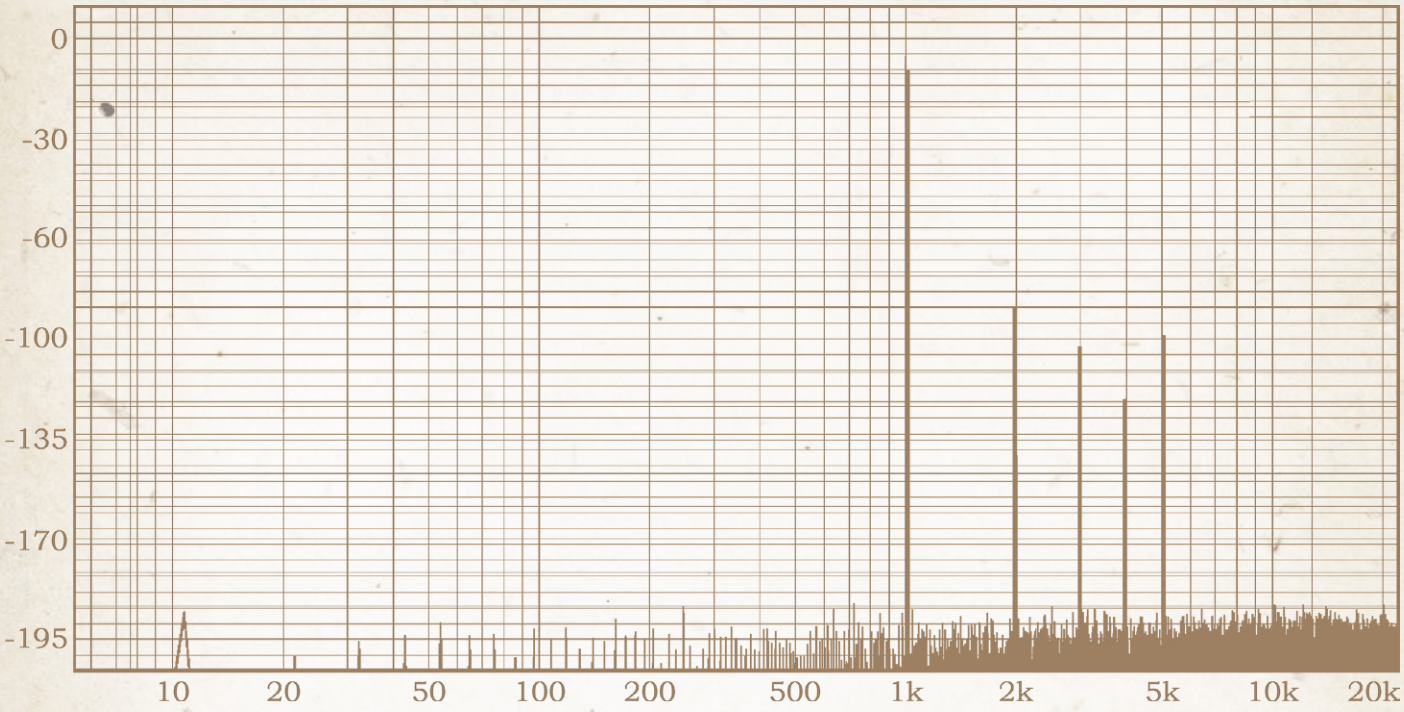
HF band - Freq. 27 kHz - Q: 1



HF band - Freq. 27 kHz - Q: 1.5



HF band - Freq. 27 kHz - Q: Shelf



Preamp graph

Q
Bell curve Q-values:
0.5 0.7 1.0 and 1.5 nominal

PRE

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

The so included preamp option delivers the typical sound of the hardware and Zino's signal path sonic coloration and tone, characterized with the added sense of depth to the sound field. For a result that is closest to his signal path, please keep this preamp switched on.

INPUT GAIN L
It sets the input level from -24dB to +24dB (from 0 to 10), and is used to control the signal level inside the Eq.

INPUT GAIN R
It sets the input level from -6dB/+6dB, and is used to control the signal level inside the Eq.

OUTPUT GAIN L

Gain control that sets the OUTPUT LEVEL of the Left or Mid channel of the plug-in. It ranges between -14dB/+14dB.

OUTPUT GAIN R
Gain control that sets the OUTPUT LEVEL of the Right or Side channel of the plug-in. It ranges between -14dB/+14dB.

C-L (CONTROL-LINK)
This button links the controls of left and right channels.

M/S (MID-SIDE): 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.

Installation and authorization

PRODUCT REGISTRATION

Product registration is automatic after you purchase a product in our web-shop and your newly purchased product will be available to download using our installation assistant application called Aquarius. For details about registration please refer to the Aquarius user manual on the website.

PRODUCT AUTHORIZATION

Product authorization and de-authorization is an on-line automatic process that creates a product license based on your computer's identification code.
This procedure is automatically guaranteed by our installation application, Aquarius. Its purpose is to simplify and automate the authorization, installation and uninstallation process of your purchased Acustica products (ACQUA plug-ins etc.).
For details about installation/authorization please refer to the Aquarius user manual on the website.

RECOMMENDATION:
We recommend you always update Aquarius to the latest version available. In case of authorization problems with an Acqua plugin, we recommend you proceed with a product uninstall and re-install through the Aquarius app.

REFERENCES

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