elysia

karacter 500

VPR ALLIANCE

And now for something completely different

The karacter 500 is a box full of vibrant colors. It covers a complete spectrum including mastering-grade saturation, tube-inspired distortion and glorious destruction. Gone are the days when only racks full of outboard gear could achieve these elusive and highly desirable styles of tonal coloration...

This all-in-one solution offers two separate channels which can be set up for dual mono, linked stereo or linked and unlinked M/S operation. Integrated mix stages for parallel signal processing and the unique Color Control add to its remarkable flexibility.

The entire unit is designed with discrete class-A topology, so even the most lo-fi sounds will benefit from the karacter's high-end touch. Enhance your tracks or decimate everything – it's a matter of karacter.

Enjoy countless hours of fun with this marvelous machine!

Compatibility

The karacter 500 module requires installation into an API 500 series compatible rack frame (not included). It needs the power supply and the audio connectors provided by this frame, and cannot be used for its intended purpose by itself.

The current consumption is 210 milliamperes (105 mA per slot) at +/- 16 volts DC. This is actually more than some other 500 series modules consume as a result of the discrete class-A design of the karacter 500's audio path.

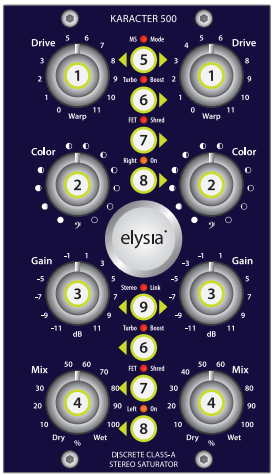
Most API 500 compatible racks meet this requirement without problems, but there might be a limit on how many units can be installed in a single rack. In case of doubt, please check with the manufacturer of your specific rack.

Installation

Just follow these easy steps to install the karacter 500 module:

1. Switch your API 500 series compatible rack off and disconnect the power cable from mains.
2. Insert the module into two free slots of your rack. Make sure both PCB connectors match with the rack connectors.
3. Gently push the module in place – do not use any excessive force!
4. Tighten the front panel with four screws provided by your rack manufacturer.
5. Connect your XLR audio cables (see page 6 for more info) and power up your rack.

That should do it. Have lots of fun with your karacter 500!



Controls

1 Drive

Determines the overall intensity of saturation/distortion/destruction. Clockwise means more.

2 Color

Changes the harmonics-frequency relation. Middle is flat; turn left for more dub and right for more shred.

3 Gain

Sets the amount of output gain. This controller can both cut (turn left) and boost (turn right) the level. Middle is flat.

4 Mix

Blends the direct and the processed signal in any desired relation. Left = 100% dry, right = 100% wet.

5 M/S Mode

Switches from Stereo to M/S processing. The left controllers and bottom switches control the Mid, the right controllers and top switches process the Side.

6 Turbo Boost

Provides an additional kick for truly wild distortion (only available in FET Shred mode).

7 FET Shred

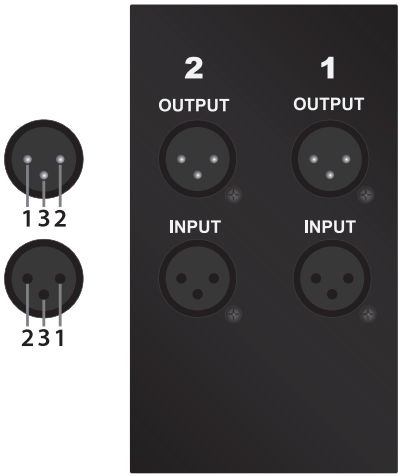
Switches from mastering-grade saturation (LED off) to tube-inspired distortion (LED on).

8 Left/Right On

Activates a channel or switches to hardwire bypass.

9 Stereo Link

Links both channels for processing stereo sources (left controllers and bottom switches become the master for both channels). Linking the channels also works in M/S mode. It might seem a little odd, as the behavior seems to be exactly the same as in linked stereo mode. It can still have its benefits, though, as the inevitable divergences between left and right channel which are caused by natural component tolerances will be reduced in this mode, because here the side information of both channels is processed in a single audio path.



Connectors

Audio outputs (+4 dBu)
Pin assignment balanced: **1** ground **2** hot (+) **3** ground
Pin assignment unbalanced: **1** ground **2** hot (+) **3** idle

Audio inputs (+4 dBu)
Pin assignment balanced: **1** ground **2** hot (+) **3** cold (-)
Pin assignment unbalanced: **1** ground **2** hot (+) **3** ground

Mono operation: Connect either one or both of the input and output pairs **1** and **2** for single or dual mono channel use.

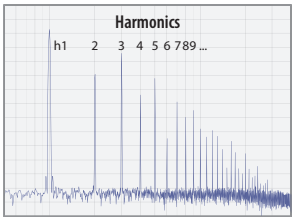
Stereo operation: Connect both inputs and outputs **1** and **2** – the choice which channel is left and which is right is up to you.

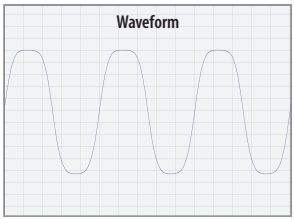
Stereo Link

Dual Mono

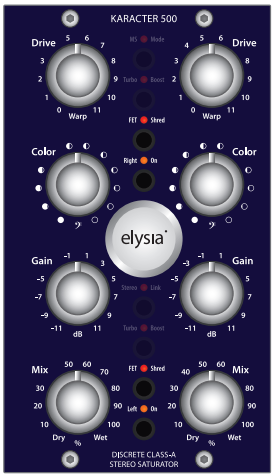
Mastering-Grade Saturation

In this mode, the karacter 500 generates gentle Total Harmonic Distortion (THD) with a soft characteristic curve, resulting in symmetrical clipping. Your sound gets fatter but stays intact – the perfect color for busses, stems and complete mixes.





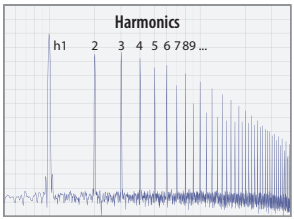
Stereo Link

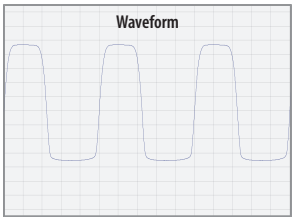


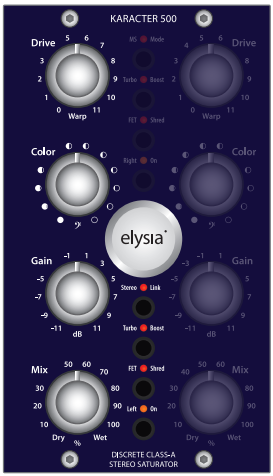
Dual Mono

Tube-Inspired Distortion

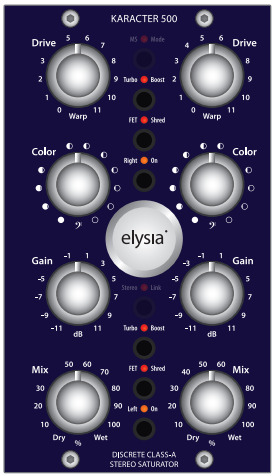
In FET Shred mode, the behavior of the karacter 500 changes drastically. The sound instantly reminds of tube amplifiers, with a wide range of asymmetrical distortion. It's a good idea to make extensive use of the Color controller – there are so many nuances to discover...







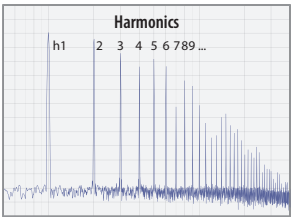
Stereo Link

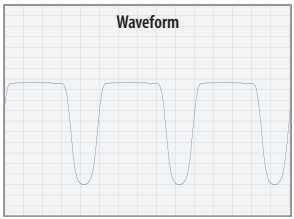


Dual Mono

Glorious Destruction

Now, this is pushing the envelope. The Turbo Boost option is only available in FET Shred mode and works best at high Drive levels. It shifts the operating point of the distortion circuit and generates even more asymmetrical wave forms. Hit your samples hard!





Mid/Side Processing

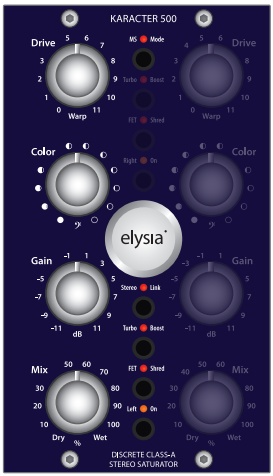
M/S technology is commonly known as a variant of stereo miking. This technique uses a microphone with cardioid pattern for the middle signal (M) and another one with bi-directional pattern with an offset of 90° for the side signal (S). The main advantage of this technology is its mono compatibility. FM radio stations use M/S technology for transmitting stereo signals exactly for this reason.

To create M/S signals, the left and right channel of the stereo sum are added to generate the mid (M), whereas the side (S) is created by subtracting the right from the left channel:
M = L+R **S = L-R**

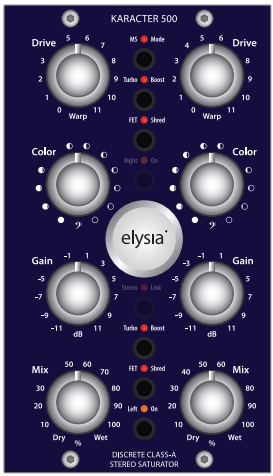
To decode an M/S signal back into stereo again, M is added to S for the left channel and S is subtracted from M for the right channel:
L = M+S **R = M-S**

The integration of an M/S encoder and decoder into an audio processor generates new potentials that classic stereo devices can hardly offer. One of the main advantages is the possibility to process the middle and side signals separately. This way you can make the center sound more solid without corrupting the original stereo spectrum, for example.

Of course it is also possible to enhance the presence of the side signals in an already finished mix. The stereo width can be influenced fast and effectively, too, and it is also possible to process specific parts of a mix that could not be selected in a stereo mix as precisely as it is possible in M/S mode.



Linked M/S



Unliked M/S

M/S Mode

The most interesting option here is the unlinked M/S mode, as it gives you the possibility to process the mid and the side signals completely independent from each other (remember left becomes mid channel and right becomes side channel).

You can apply a high amount of saturation to the mid and leave the sides completely untouched, or the other way round, or anything in between... Different settings of the gain controllers can be used to create subtle or significant changes within the stereo spectrum.

The Left On button always switches both channels in M/S mode.

Technical Details

Frequency response:	
• 100 % Dry	<10 Hz - 400 kHz (-3 dB)
• 100 % Wet	<10 Hz - 27 kHz (-3 dB)
THD+N (100 % Dry):	
• @ 0 dBu	0.013 %
• @ +10 dBu	0.024 %
THD+N (100 % Wet in Saturation Mode):	
• @ 0 dBu Min Drive	0.47 %
• @ 0 dBu Max Drive	35.1 %
Noise floor 20 Hz - 20 kHz (A-weighted):	
• 100% Dry	-91 dBu
• 100% Wet (depending on Drive and Gain)	-81 to -91 dBu
Dynamic range 20 Hz - 22 kHz:	112 dB
Maximum input level:	+21 dBu
Maximum output level:	+21 dBu
Input impedance:	10 kOhm
Output impedance:	68 Ohm

CE Conformity

CE The conformity of this device to the EU directives is confirmed by the CE mark on the device.

This declaration becomes invalid by any unapproved modification of the device.

Nettetal, 01.11.2015 - Ruben Tilgner

Precautions

CAUTION: Electricity

- Make sure to operate your API 500 series compatible rack at the specific mains voltage of your country.
- Replace rack frame fuse with the same type and value only.
- Your rack frame must be connected to ground.
- Do not use a damaged power cord.
- Never place containers with liquid on the rack.
- Do not expose this device to rain or moisture.
- Do not use this device near water.
- Refer service to qualified service staff only.

CAUTION: Temperature

- Surfaces of the device may become hot during operation.
- Do not install this device near any heat source such as radiators, stoves or other heat sources.

CAUTION: Connecting & Mounting

- Never connect to the output of a power amplifier.
- Do not apply extensive force when installing this device.
- Use the device according to this manual only.

CAUTION: Humidity

- If this device is moved from a cold place to a warm room, condensation can occur inside the device. To avoid damaging the unit please allow it to reach room temperature before switching it on.

Warranty Info

The karacter 500 is covered by a limited warranty for a period of 2 years against defects in parts and labor from the date of purchase. Natural wear is not covered by this warranty. Repairs or replacements will not extend the warranty period.

The warranty is given to the original purchaser only and is not transferable. elysia will only give warranty on products purchased through authorized elysia dealers. The warranty will only be valid in the country of the original purchase unless otherwise pre-authorized by elysia.

All warranties become void when the product has been damaged by misuse, accident, neglect, modification, tampering or unauthorized alteration by anyone other than elysia authorized service personnel.

The warrantor assumes no liability for property damage or any other incidental or consequential damage whatsoever which may result from failure of this product. Any and all warrantees of merchantability and fitness implied by law are limited to the duration of the expressed warranty.

elysia will not pay for express or overnight freight service or pay for shipments to locations outside Germany. All damages caused by transport are not covered by this warranty.

This warranty gives you specific legal rights and you may also have other rights which vary from state to state. Some of the above limitations may not apply to you.

Legal Info

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The product has been manufactured in compliance with the RoHS directive. The purpose of this directive of the European Union is the Restriction of Hazardous Substances (RoHS) in electronic equipment in order to protect health and nature. Dispose separately!