



# Channel Strips

## N-closure 6



## N-closure 2



N-closure channels are taken directly from our N-Trophy All Discrete Analog Console.

# Back to The Nature of Sound

[www.hum-audio.com](http://www.hum-audio.com)



Carefully handcrafted in Poland

Be a true Unhindered Maker...



# Back to The Nature of Sound

N-Trophy is a fully discrete, modular analog in-line console designed to become the heart of a modern analog or hybrid studio, where the highest possible sound quality and fast, creative work is a key. Where you don't want to be overwhelmed by increasingly complex technology, but focus on the art itself. Draw the real Inspiration, and create your next masterpiece joyfully and without compromise. That's the way it should be and this is the idea that guides us. And that is exactly what you will experience with N-closure channel strips.



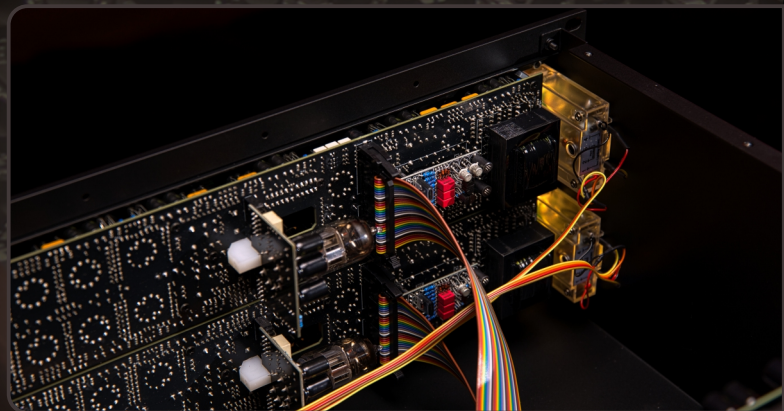
A beautiful and inspiring classic look is combined with an innovative approach to working on analog console. N-Trophy is an exceptional console in so many aspects, like never before. It removes digital 'junk', and brings life, vitality, air, space and depth back to your tracks. It brings back the pleasant feeling of communing with what is close to every human being by nature: the beauty of analogue sound. Truly, the N-closure channel strips give you a 'Back to The Nature of Sound' experience.

## How we did it? The secret behind the N-Trophy

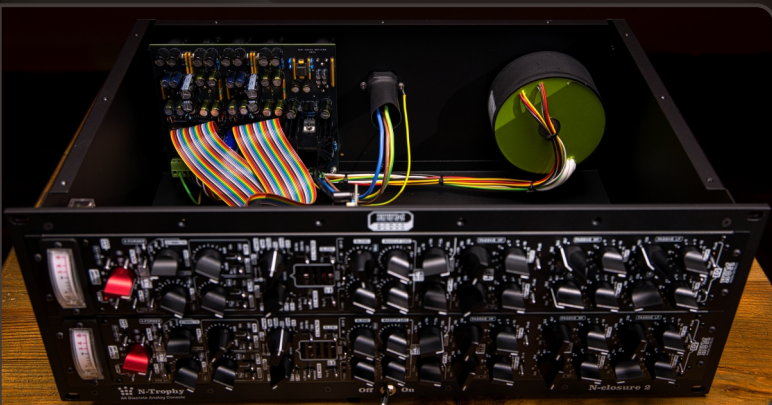
N-Trophy All Discrete Analog Console is a result of over three years of meticulous development, careful audiophile quality component selection, and hundreds of hours spent in our analog recording studio, testing every component during real sessions to get the final sound. The 25 years of sound engineering experience was invaluable here. As with all our devices - they are distinguished by an absolutely uncompromising approach to both quality, speed of work and user comfort. We took maximum care to choose every single component in N-Trophy's audio path for the best possible sound quality and musicality. That's why the N-Trophy and the N-closure are equally good when working on any musical genre. This is really the maximum sound quality we could achieve these days.

We designed High End discrete class A mic preamps, custom audio transformers and discrete opamps, as well as unique six-band passive EQ, THD Stage, Tube Optical Compressor / Limiter with innovative detection and compression circuits that work differently than ones found in other studio equipment.

At the same time, we eliminated all points where classic analog consoles used to be weak or overcomplicated. The signal path is also as short as it can be, despite plenty of N-Trophy's and N-closure's sound shaping tools.



*HUM flagship JE990 preamps, transformers and tube circuits...*



*A very high quality linear power supply...*

To complete the N-Trophy and N-closure design we have also taken special care to develop the classic linear power supply with a custom double shielded toroidal transformer and best Linear Technology voltage regulators.

The transformer here is acting as a power conditioner, ensuring large headroom and very low noise performance.



## A choice of two excellent options

N-closure2 is a 4U device housing a maximum of two N-Trophy console channel strips mounted horizontally, and N-closure6 is an 11U unit prepared for up to six N-Trophy console channel strips mounted vertically.



N-closure6 is the perfect solution if you wish to expand your setup with more than two channel strips and have a console-like furniture. With channels mounted in a similar way to the N-Trophy channel strips you will have great console-like experience.

You can order N-closure6 with any number of channel strips installed, and then expand your system as your studio grows.

Empty spaces without installed channel strips are filled with blank panels.

*N-closure6 is a great starting point for future expansions...*

## Connections and studio integration

On the rear panel of the N-closure you will find an AC power socket and balanced XLR and Combo sockets - identical to the sockets on the rear panel of the N-Trophy channel section. The only difference is a number of connector sections, depending on whether it is N-closure2 or the N-closure6 housing. The sockets are:

- **KEY1, KEY2:** Global line inputs for an external sidechain compressor/limiter circuit. All installed channel strips have a switch to select which KEY input they use.
- **INS SEND, INS RET:** Line inputs/outputs for each channel's external insert loop.
- **DIR OUT:** Channel line output. Output point can be selected on each channel strip: after the preamp or after all processing in the channel.
- **LINE IN:** Input for processing line-level signals. A typical scenario is that you use it when the N-closure is connected to other analog equipment in the chain.
- **TAPE IN:** Channel's second line level input. Selectable with a dedicated switch. This input is intended for use as a DAW audio signal input, without the necessity of switching cables between LINE and TAPE inputs.
- **MIC IN:** Mic-level input to the channel mic preamplifier.



*Back panel of the N-closure2.*



# Creative tools you will find in N-closure channel strips:

N-closure channel strips are taken directly from our N-Trophy All Discrete Analog Console. Sound quality and all features are identical, except for those related to the N-Trophy Centre Section: Auxes, signal routing to Groups, Panning and MixB section.

## HIGH END DISCRETE CLASS A Mic/Line/Instrument PREAMPS

They are based on legendary Jensen JE990 opamps. It's a similar topology to the preamps found in our flagship RP-2 preamp, and in practice one of the best sound you can get from a mic preamp anywhere: big, vital, pushed forward, full of life and with a lot of details. Perfectly balanced, bringing out the nuances of the sound beautifully, yet not exaggerated in any way. It is equally good for clean, beautiful-sounding classic recordings, as well as providing a solid foundation for coloring and tweaking the sound with N-closure tools when working with other musical genres.

## CUSTOM MADE BEAUTIFULLY SOUNDING AUDIO TRANSFORMER

It adds class and size to the sound, enriching it, filling the space and giving even more analog taste. The same transformer is used in the N-Trophy Mastering Console.



## THD SATURATION / DISTORTION STAGE

With level knob and plenty of colours and various harmonic additions: **German, Silicon (ASYMETRICAL)** and **Soft, Mid, Hard (SYMETRICAL)**. **Soft** mode is especially great for analog tape simulation.



## TUBE OPTICAL COMPRESSOR / LIMITER

Our original design of a very crative and extremely effective dynamics section, equally good for keeping vocals in place and for 'crushing' drums and even for special effects purposes.

It works great on everything, thanks to its continuously adjustable characteristics: from **compressor** (slower, gluey sound, LA-2A type) to **limiter** (fast, FET-like type 1176). All possible sidechain options are at your disposal, along with a High Pass Filter, external KEY inputs and stereo link for detection circuits.

Attack and Release are automatically changed along with the compression level, so the compressor is very quick and intuitive to use, and you will achieve the desired sound in seconds. The ECC88 (6N23P) tube is placed in the Gain Makeup stage, and you have option to bypass the compressor, but still use the tube to add a beatiful tone to your track.

## SIX BAND PASSIVE EQ WITH WIDE SLOPES AND LPF/HPF FILTERS

Our original design of an amazingly musical sounding mastering grade equalizer. We have spent a great deal of time on the perfect selection of frequencies and how the bands overlap. The idea behind the equalizer is to find the right balance of your sound quickly and creatively. Once you start using it, you'll see how fast and intuitive it is, and how beautifully it brings out the 'life' and three-dimensional space of your recordings. N-closure equalizer uses rotary switches just like all mastering equalizers. Its phase and characteristics are perfectly matched, so you can use it with confidence on multiple channels with the same settings, achieving identical sound.

## ROUTING WITH VARIABLE ORDER OF BLOCKS: INSERT, COMPRESSOR, EQ

All audio signal routing is lossless, passive, based on relays with gold-plated contacts.



# Detailed descriptions of N-Strip's features:



- Top quality **VU Meter** with excellent ballistics.
- **PREAMP GAIN (dB)** Gain switch for the selected signal input.
- **+48 V** Phantom power switch for condenser mics.
- **TAPE GAIN** 0/+6/+12dB switch for **TAPE IN** input signal.
- **PRE SRC** Input source for the preamp: **Mic/Off/Line**.
- **PRE PH** } Phase reverse switches for **Mic/Line/Instr** inputs and **TAPE IN** (line level) signals.
- **TAPE PH** }
- **Preamp Channel** } Select channel's physical input.
- **Tape Channel** }
- **X-FORMER** Switch for interstage audio transformer located after the mic preamp.
- **THD LVL** } Select type and level of saturation.
- **THD TYPE** }
- **DIR SRC** Select audio output point for **DIR OUT**:  
**Preamp** - after the preamp, before processing  
**ChOut** - after all sound processing in the channel
- **TRIM** Pot for additional trim level of **DIR OUT** (direct output) signal, with **on/off** switch.
- **INSERT** } Insert switch and insert dry/wet blend pot with switch. When **BLEND** switch is set to off, channel's insert point is 100% wet.
- **BLEND** }
- **ORDER** Select processig order: **C** (Compressor), **E** (EQ + filters), **I** (Insert).
- **METER** Select metering point for the VU Meter. **G.R.** - Gain Reduction of the Compressor.
- **S.C. MODE** Compressor sidechain mode: **Internal**, **L/R Link** (stereo link), **Key** for external key inputs.
- **KEY SRC** Select **KEY1** of **KEY2** for sidechain inputs
- **S.C. FILTER** Cutoff frequency for detection circuit in **Internal** sidechain mode.
- **Comp** Switch in **OPTO COMPRESSOR**. In **Byp** mode the compressor is bypassed, but the tube is still active.
- **TYPE** Select compressor characteristics, from **Comp** (slow) to **Lim** (fast).
- **THRESHOLD** Compression depth. Attack and release depends on the gain reduction depth.
- **BLEND** dry/wet mix balance of compressed and uncompressed signal.
- **MAKEUP (dB)** Gain Makeup - signal level boost after compression. Tube circuit.
- **LPF (Hz)** Low pass filter, frequency selection with stepped rotary switch. 6dB/oct slope.
- **HPF (Hz)** High pass filter, frequency selection with stepped rotary switch. 6dB/oct slope.
- **HF** High frequency passive EQ, independently selected frequencies for **BOOST** and **CUT**. Selection with stepped rotary switches. Gently overlapping (6dB/oct).
- **BOOST (dB)** Amount of boost (dB) for HF band. } Shelf/Peak switches for **BOOST** an **CUT**.
- **CUT (dB)** Amount of cut (dB) for HF band. }
- **MF** Mid frequency passive EQ, independently selected frequencies for **BOOST** and **CUT**. Selection with stepped rotary switches. Gently overlapping (6dB/oct).
- **BOOST (dB)** Amount of boost (dB) for MF band.
- **CUT (dB)** Amount of cut (dB) for MF band.
- **LF** Low frequency passive EQ, independently selected frequencies for **BOOST** and **CUT**. Selection with stepped rotary switches. Gently overlapping (6dB/oct).
- **BOOST (dB)** Amount of boost (dB) for HF band. } Shelf/Peak switches for **BOOST** an **CUT**.
- **CUT (dB)** Amount of cut (dB) for HF band. }
- **EQ** On/Off switch for the channel EQ circuits.



# Specifications:

Measured with the Prism D-Scope III Audio Analyzer.



## Audio:

Audio voltage rail:	+/- 24V
Self Noise A-weighted:	-105 dBV
THD+N:	0.005% (1kHz / 1dBV)
Frequency Response:	20Hz - 30kHz (+/- 0.16dB) -0.3dB @ 50kHz   -1.2dB @ 100kHz   -3.8dB @ 200kHz -0.07dB @ 10Hz   -0.3dB @ 5Hz
Phase L/R Matching:	max 0.8 deg (10Hz - 30kHz)
CMRR:	-65dB
Max Input Level:	+22dBV
Max Output Level:	+28dBV
Input XLR (LINE, TAPE, INS SEND)	balanced, impedance 10k Ohm
Output XLR (DIR OUT, INS RET)	balanced, impedance 75 Ohm
Mic Input	balanced, impedance 3.5k Ohm
AC Powering	internally switchable 240V/120V - 50/60Hz
Power Consumption:	max. 50 Watt (N-closure2).

<b>Weight:</b>	N-closure2	9.8 kg (12 kg shipping) - two channels fitted
	N-closure6	15.5 kg (19 kg shipping) - two channels fitted, 4 blank panels
		1.3 kg - single channel strip (N-Strip)
		0.3 kg - single blank panel

<b>Dimensions:</b>	N-closure2 (4U)	Width:	484 mm	N-closure2 (11U)	Width:	484 mm
		Height:	177.6 mm		Height:	488.6 mm
		Depth:	314 mm		Depth:	314 mm
		(housing with sockets & knobs)			(housing with sockets & knobs)	
	<b>Shipping box</b>	Width:	620 mm	<b>Shipping box</b>	Width:	620 mm
		Height:	250 mm		Height:	570 mm
		Depth:	420 mm		Depth:	420 mm

**Package contains:** - N-closure2 or N-closure6 according to the order.  
- Custom shielded AC cord.

Feel free and inspired, as a true Unhindered Maker!

Create your next masterpiece without compromise, with vital and full-of-life sound. Together with your new N-closure channel strips.

Your hard work deserves that.

Your HUM Audio Devices team.

## Contact:



**HUM Audio Devices**  
ul. Gen. Tadeusza Rozwadowskiego 4  
94-408 Łódź  
Poland

Phone: +48 602 43 46 03  
+48 515 99 81 14  
email: info@hum-audio.com



For more info and demoing please contact us or our authorized distributors.  
Check the distributors list on our website, and look for further High End products:



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**N-Trophy**<sup>TM</sup>  
All Discrete Analog Console