



Machine Head

The Machine Head is a high end digital processor to simulate authentic tape saturation effects. The subjective sonic effects are an increase in loudness and a better penetration of the mix at identical peak level. The sound becomes warmer and more powerful and the process eliminates the harshness usually associated with digital recordings.

With the Machine Head the user does not have to leave the digital domain – A/D-D/A conversion, maintenance and extensively measuring the tape machine is no longer required. Compared to conventional solutions, this way of processing tape saturation effects is more comfortable, flexible, efficient and often better sounding.

The Machine Head precisely reproduces the analog tape saturation effects, including hysteresis, harmonic characteristics and both linear and non-linear transmission-characteristics (other than level) that occur when recording to analog tape.

In contrast to an analog tape machine, the intensity of high frequency damping is fully adjustable, e.g. for saturation effects without high frequency damping at all.

In fact the Machine Head provides all the benefits of analog recording *without* any of the shortfalls – the Machine Head does not reproduce cross-talk, pre or post echoes, noise floor (field noise and modulation noise) or motor speed fluctuation characteristics of analog tape machines.

Features

- The algorithm calculates authentic tape saturation effects to combat the harshness of digital recordings
- Internal 56-bit resolution
- PPM displays for input and output levels indicate clipping either already present at the inputs or due to the processing
- Drive Level displays recording level of the "virtual" tape machine
- AES/EBU (hard bypass relay) and S/P-DIF I/Os. Channel, status and user-bits are passed through unaltered. The outputs can be used at the same time if required
- Operates with 24 bit word width and accepts any word width from 16 to 24 bit (output resolution corresponds to input resolution)
- Stores up to 99 presets
- Synchronisation: Wordclock In and Wordclock Through BNC connectors with switchable 75 Ohm termination
- PC (RS-232) and MAC (RS422) update ports

Applications

Indispensable in the digital domain, the unique processing injects as much punch and warmth as desired into single tracks and complete mixes with unsurpassed comfort and ease of use. Used in digital recording, mastering and post-production, the Machine Head has an enormous potential to accelerate the production process.

Specifications

Input/Output

Sample rate frequency: 32-48 kHz, automatic AES/EBU, twisted pair (1), AES 3 AES/EBU in- & output impedance: 110 Ohms S/P-DIF, co-axial (2), SPDIF-2 S/P-DIF input impedance: 75 Ohms Wordclock In/Through, co-axial, BNC Wordclock in- & output impedance: 75 Ohms MIDI In/Through RS 232: software update PC RS 422: (max +/- 14 V), software update MAC Signal and Clip indicators Input transformer: AES Output transformer: AES Relay Hard Bypass: AES

Measurements

AES/EBU: Jitter 1 ns
S/P-DIF: Jitter 3 ns
Wordclock In: Jitter 1.5 ns
Signal delay: 5 ms

Power supply

Toroidal transformer 60 VA
Fuse 1A/slow blow
GND-Lift switch, voltage selector 115 V/230 V

Dimensions

19"/1U; 44.45 x 482 x 350 mm
Weight: 4.9 kg

(1) AES/EBU is defined for levels from 2 V to 7 V.

Measurements AES/EBU: 4.4 V with load.

(2) S/P-DIF is defined for levels from 200 mV to 700 mV.

Measurements S/P-DIF: 500 mV with load.



Machine Head Rear View

