PATHOS

Type:
Two stage preamplifier, zero feedback, entirely bi-monoaural with dual power supply, dual line stage, dual control signals, dual grounding, entirely optocoupled digital signal controls with separate grounding, hybrid differential line stage with dual transistor, triodes and MOSFET, direct coupling class A.

Main specifications:

Inputs:	*3 balanced XLR,*
	3 single ended RCA
Outputs:	*2 main balanced XLR*
Frequency response:	*1Hz ÷ 100KHz*
	(200KHz @-3dB)
THD:	*0,04% @ 4 Vrms*
Volume control:	*0,5 dB - 168 steps*
Tubes:	*4x 6H30*

Settings:
Possibility to set three values of total gain, channels balance, attenuation, inputs disabling, customization of inputs.

PATHOS

THE UNORTHODOX APPROACH

SYNAPSE

The worthy partner for an amplifier like Adrenalin is a new balanced preamplifier that represents the state-of-the-art of Pathos technology.

The apparatus is made of two chassis.
The inferior part has the power supply and all the control logic, including the amazing fluorescent display, while the upper part contains the stages of analog signal management.
The choice is to optimize the complex circuitry by keeping electrically noisy parts far from those used in the signal.
This preamplifier may be almost described as a three chassis apparatus because the line stages of two channels are completely separated on the power supply and ground level.
Additionally, the logic part is separated with an insulated ground.
The connection between logic and two stages is through photo couplers to guarantee the circuits separation.
Thanks to this layout, we have the advantage to avoid ground loop.
To this end, designers performed a further fineness: a complete electrical disconnection of all input so that only the selected input is electrically connected to its line stage while all others are open including ground level.
This stubborn search, aiming to optimize ground tracks and avoid fussy ground loop brings inevitably to a redundancy of circuit series, mainly power supply, thus bringing a considerable increase of costs.
That is why it is impossible to find a similar solution in equipments of current production.

Signal management is then assigned to a hybrid circuit with three stages provided with a cascode differential for voltage amplification, where is applied to a double triode 6H30 and then two buffers; the first tube buffer with the second double triode 6H30 and the second with a mosfet tracker able to interface with the maximum outer world linearity.
Two volume regulators per channel manage the balanced signal.
The channels are solid state and are located inside two modules with rectangular shape fixed on the main printed circuit; the setting is

on 168 steps of 0,5dB. A remarkable characteristic of this machine is the memory of set level on each input to avoid annoying volume changes when commutating from one input to another.

Total amplification may be fixed at 0dB, +6dB or +12dB allowing to take full advantage of the sophisticated level regulators that permit the use of centre width and have a good resolution on the setting.

Particular attention should be paid to the power supply and all parts located in the lower chassis of the machine.
If opened, it gives the impression of seeing a power amplifier with a large amount of electronics. Two sides have power supply of line stages; anodic voltage, voltage filaments

(one per each tube), and voltages for analog stages of volume controls for each channel.
The central part houses the power supply of the digital part, i.e. the microprocessor, relay, display and encoder.
The fluorescent display is really a piece of art showing the useful information needed during functioning so that we can read the selected input, set attenuation and several other menu data (channels balance, input disabling, gain block of inputs, customization of inputs, name, gain setting, etc.).

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SYNAPSE