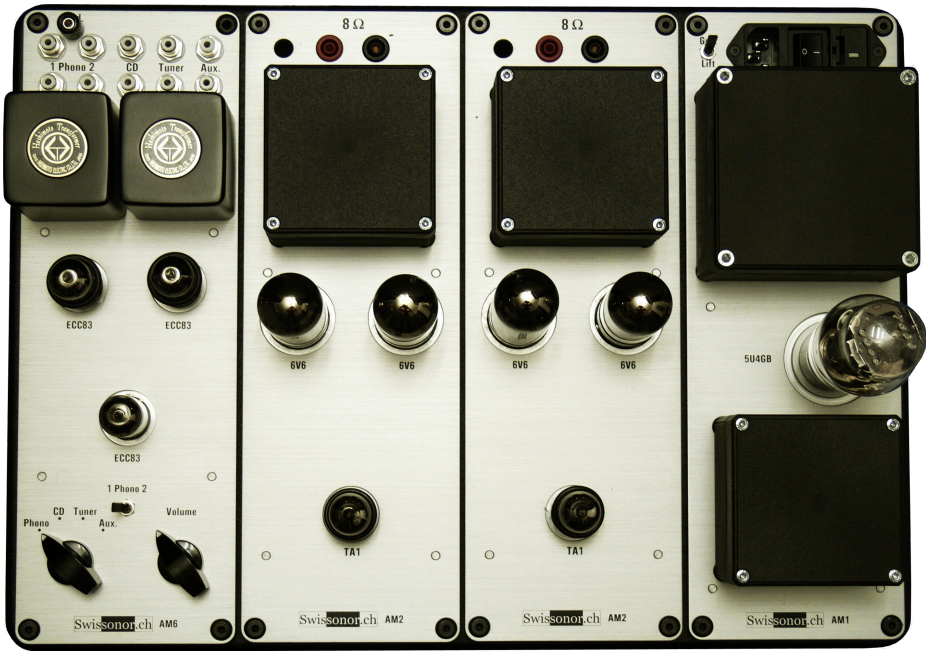


Swissonor.ch A.M. System

A.M. System = Modular Amplifier System

This unique modular amplifier system in 100% tube design allows you to get exactly the configuration you need, at the highest quality level and with the best sound possible today.

Combining a choice of pre- and power amplifiers on a common mechanical mainframe, the A.M. System cannot only compete with separate components, but outperforms them due to the following physical and electrical advantages:

- Shortest signal path, connectors and cables used for connecting separate components are eliminated.
- Design eliminates impedance and gain mismatch and reduces the number of active circuits.
- The oversized common power pack has five separate secondary windings and three voltage regulators.
- Separate ground wiring together with central ground connection and ground lift for best signal purity and lowest hum and noise.
- Multiple mechanical suspensions thru damping blocks separate the different elements mechanically and electrically. Between power transformer and RIAA amplifier for example, vibrations are filtered not less than four times!
- The system frame is cast from the same austenitic iron alloy as used for the famous swissonor#1 non-magnetic platter for Thorens TD124 . Together with the insulated module front plates, milled from 5 mm aluminium, the design guarantees freedom from vibration, magnetic induction and eddy currents usually found in classical enclosures.

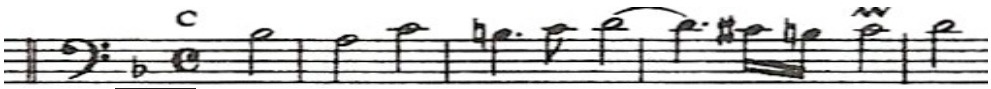
Available module blocks:

- Power pack:
  - **AM1** for one preamplifier and two power amplifier modules, using a vacuum valve as high-voltage rectifier.

- Poweramp modules:
  - **AM2** push-pull with 6V6 beam-power tetrodes in ultralinear mode (10W/channel)
  - **AM3** single ended 6B4 triode (3,6 Watt/channel)
  - **AM4** single ended 300B triode (8 Watt/channel)

- Preamplifier modules:
  - **AM5** passive preamp with four line inputs and line transformers +3 and +9dB gain.
  - **AM6** RIAA preamp, 2 phone and 3 line inputs
    Optional Hashimoto step-up transformers (at choice, 1 or 2 low impedance moving-coil-pick-up's can be operated)

Designed and handcrafted in Switzerland.



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Swissonor.ch A.M. 1 Power Pack

A.M. 1 = Power Pack module for one preamp and two power amplifiers

Goals:

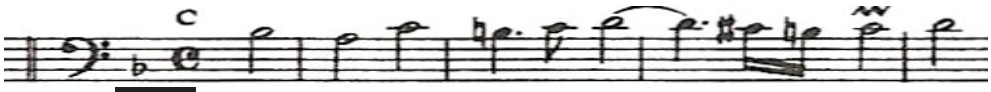
- Stable and precise power pack for two power amplifiers and one preamplifier
- High voltage rectification with vacuum tube, for subjective reasons
- Security and stability

Design:

- Combined Schurter 10A IEC device plug/fuse holder/switch
- Separate ground-lift switch eliminates earth loops, when necessary
- Huge, resin-filled power transformer with 5 (!) secondary windings
- High-voltage rectification with high-current vacuum valve
- Loading capacitor Mundorf Tube Cap
- Oversized 14H/200mA high-voltage self, resin filled
- Long life, low ESR 105 °C capacitors
- CLC feeding for the output stage with local polypropylene condenser decoupling
- Regulated high voltage output for preamp and phase shifter, with local polypropylene condenser decoupling
- Two separate regulated DC heating circuits for preamp and drivers, AC heating for output tubes
- 1% Metal-Oxide-Resistors and other selected high-grade parts
- Double face Zinkor- PCB (zinc-gold-alloy) , hand-soldered with Cardas silver tri-eutectic alloy
- Final check after 12h burn-in

This module drives one **AM5** or **AM6** preamp module and two **AM2, AM3 or AM4** power amplifier modules

All connections and operation on top side, ideal for placement next a disc player, for example.



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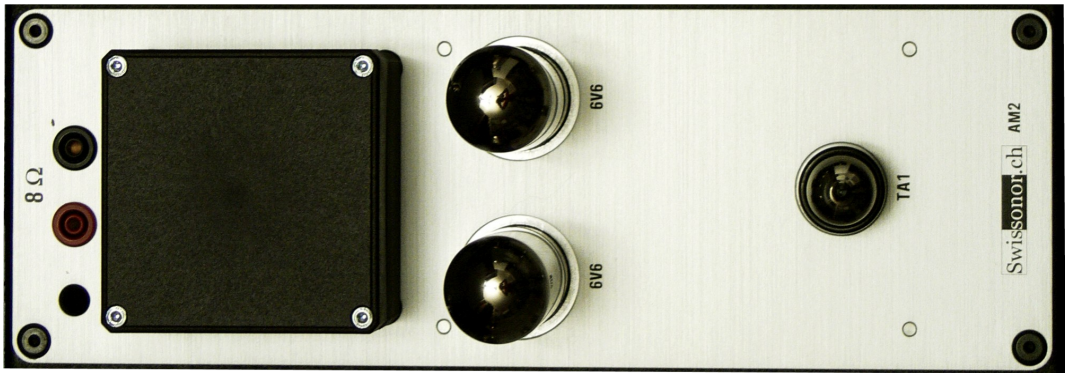


Swissonor.ch A.M. 2 PP power amplifier

A.M. 2 = PP- power amplifier module with 10 watts output (per channel)

Goals:

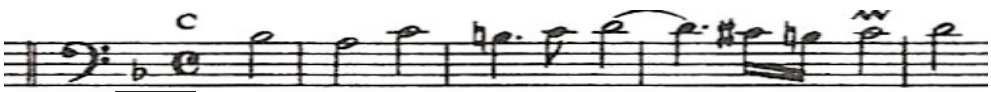
- Use of very reliable 6V6 low power tetrodes in UL circuit, resulting in extremely low amounts of high order distortion, very unpleasant for your ears.
- No overall negative feedback at all.
- Only three active stages, from the passive preamp to the output The 6V6 has good input sensitivity and therefore needs no additional driver stage, thus the final result is superior to what can be achieved with less sensitive medium to high power tetrodes as 6L6, KT66, 6550, KT88.
- Output power of 10 W per channel, optimised for speakers with a sensitivity from 92 dB (1W, 1m) up.
- Extremely stable when driving real loudspeakers loads with UL mode and zero overall negative feedback

Design:

- Preamplifier and phase inverter/driver stage using one ECC81 valve (compatible to 12AT) in bootstrap circuit for high symmetry, extended bandwidth and low output impedance.
- Optionally available on order with slightly different circuit using E88CC valves, with 4dB less gain.
- Regulated high voltage line, stabilised with a dedicated Mundorf polypropylene condenser for the phase shifter and the driver
- Regulated and stabilised DC heating for the phase shifter and the driver
- 6V6 beam power tetrode (compatible 6V6G, 6V6GT, 6V6GTY, 6V6Y, 5871, 7184 and others)
- Ultralinear-circuit in AB1-mode combines the advantage of tetrode and triode modes (load driving capability, distortion, damping factor).
- Perfectly symmetrical output transformer with 14 distinct windings on M85 core made from heat treated M111 oriented grain core.
- Optimised mass- and signal paths.
- High grade Mundorf and SCR polypropylen condensers
- 50 ppm 1% Metal-Oxide-Resistors, 105°C low ESR long life condensers and other selected high-grade parts
- Double face Zinkor- PCB (zinc-gold-alloy) , hand-soldered with Cardas silver tri-eutectic alloy
- Final check after 12h burn-in

Data:

- Output power .....10 Watt each channel at 8 Ω
- Input impedance .....100 kΩ
- Input sensitivity (E88CC) .....560 mV
- Input sensitivity (ECC81) .....360 mV
- Power bandwidth.....15 Hz to 60 kHz +/- 2 dB (without NFB!)



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Swissonor.ch A.M. 3 SE-power amplifier

A.M. 3 = Single Ended power amplifier using 6B4G Triode

Goals:

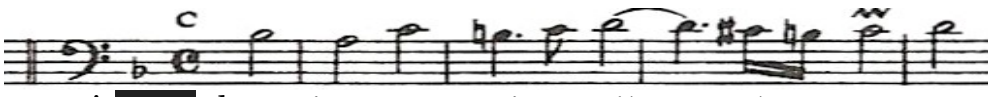
- Using one direct heated 6B4G Triode in SE class A circuit due to the extremely linear behaviour and finest music reproduction
- No overall negative feedback at all.
- Optimized preamp/driver stage
- Output power of 3 W per channel, optimised for speakers with sensitivity from 95dB (1W, 1m) up.
- Stable when driving real loudspeakers loads with triode mode and zero overall negative feedback

Design:

- Preamp/driver stage using ECC 81 Triode (compatible 12AT7) in bootstrap circuit for high gain, extended bandwidth and lowest distortion..
- Regulated high voltage line, stabilised with a dedicated Mundorf polypropylene condenser for the preamp/driver
- Regulated and stabilised DC heating for the phase shifter and the driver
- Sovtek Single Plate 6B4G (compatible 6C4C) in pure Class A single Ended design.
- Heating of each output tube with separated 6,3V DC, using a Schottky diode rectifier, low drop regulation and stabilization
- Output transformer with 9 distinct windings on M102 core made from heat treated M111 oriented grain steel, resin filled.
- Optimised mass- and signal paths.
- Local stabilisation of cathode resistor and filament with polypropylene condenser
- 50 ppm 1% Metal-Oxide-Resistors, 105°C low ESR long life condensers and other selected high-grade parts
- Double face Zinkor- PCB (zinc-gold-alloy) , hand-soldered with Cardas silver tri-eutectic alloy
- Final check after 12h burn-in

Data:

- Output power .....3,6 Watt each channel at 8 Ω
- Input impedance .....100 kΩ
- Input sensitivity (ECC81) .....940 mV
- Power bandwidth.....15 Hz to 75 kHz +/- 2 dB (without NFB!)



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Swissonor.ch A.M.4 300B SE poweramp

A.M. 4 = Single Ended power amplifier using 300B Triode

Goals:

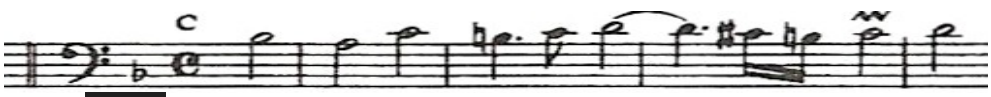
- Using one direct heated 300B Triode in SE class A circuit due to the fantastic soundstage illumination.
- No overall negative feedback at all.
- Optimized preamp/driver stage for the extremely demanding 300B driving
- Output power of 8 W per channel, optimised for speakers with sensitivity from 92dB (1W, 1m) up.
- Extremely stable when driving real loudspeakers loads with triode mode and zero overall negative feedback

Design:

- Preamp/driver stage using ECC 803 Triode (compatible 12AT7) in µ-follower circuit for highest gain and output voltage , extended bandwidth and low distortion.
- Regulated high voltage line, stabilised with a dedicated Mundorf polypropylene condenser for the preamp driver
- Regulated and stabilised DC heating for the phase shifter and the driver
- EH Gold Grid 300B tube in pure Class A Single Ended design. Other tubes on demand.
- Heating of each output tube with separated 5V DC, using a Schottky diode rectifier, discrete Darlington regulation and stabilization
- Output transformer with 9 distinct windings on M102 core made from heat treated M111 oriented grain steel.
- Optimised mass- and signal paths.
- Local stabilisation of cathode resistor and filament with polypropylene condenser
- 50 ppm 1% Metal-Oxide-Resistors, 105°C low ESR long life condensers and other selected high-grade parts
- Double face Zinkor- PCB (zinc-gold-alloy) , hand-soldered with Cardas silver tri-eutectic alloy
- Final check after 12h burn-in

Data:

- Output power .....8 Watt each channel at 8 Ω
- Input impedance .....100 kΩ
- Input sensitivity .....600 mV
  - Power bandwidth.....35 Hz to 75 kHz +/- 2 dB (without NFB!)



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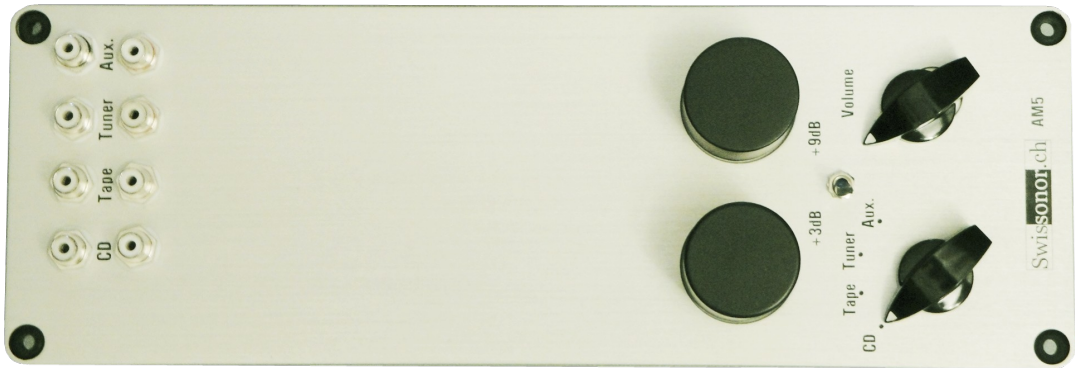


Swissonor.ch A.M. 5 Passive preamplifier

A.M. 5 = Passive preamplifier with 4 line inputs

Goals

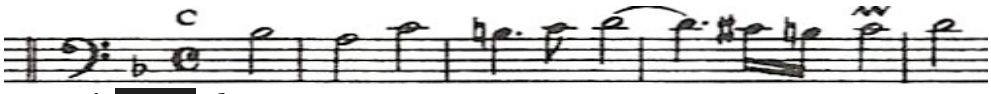
- Highest sound quality with amplification by step-up transformers
- Shortest signal paths
- Cabling and operation on top side, ideal for placement next to other equipment

Design:

- Input selection by totally closed double relays, positioned directly at the input socket
- Pair of 1:1,5/1:3 encapsuled input transformers
- Gain selector +3/+9 dB
- ALPS blue power attenuator
- Double face Zinkor- PCB (zinc-gold-alloy) , hand-soldered with Cardas silver tri-eutectic alloy

Data:

- Input impedance... .....45 kΩ (+3 dB), 11 kΩ (+9 dB)
- Bandwidth ... .11 Hz to 85 kHz -3dB
- Gain.....+3 dB or +9 dB switchable



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Swissonor.ch A.M. 6 phone/line preamp

A.M. 6 = RIAA preamplifier with 2 phone and three line inputs

Goals:

- Highest sound quality thru non compromise full-tube design
- Shortest signal paths
- High output voltage of the RIAA stage, eliminating the need for additional active line amplification stages.
- Use of MM and/or MC phone cartridges
- Flexible trough separate PCB for RIAA circuit, plugged-in the preamp's PCB.
- Cabling and operation on top side, ideal for placement next to other equipment

Design:

- Input selection by totally closed double relays, positioned directly at the input socket
- Additional relay for phono switching
- Optional integrated Hashimoto step-up transformers (at choice HM-3 or HM-X, with 3Ω or 12 Ωinput impedance) for use with low impedance high-end phone cartridges as Ortofon SPU type)
- Phone preamp with symmetrical circuit and separate symmetrical ground lines for lowest noise.
- 3-stage RIAA preamplifier/equalizer (based on Marantz 7 circuit) using three ECC83 triodes (compatible 12AX7, E83CC, ECC 803)
- Regulated high voltage line, stabilised with dedicated Mundorf polypropylene condensers for each stage
- Regulated DC heating, stabilised
- ALPS blue power attenuator, 1% 50ppm Metal-Oxide-Resistors, silver/mica and Styroflex condensers and other selected high-grade parts
- Double face Zinkor- PCB (zinc-gold-alloy) , hand-soldered with Cardas silver tri-eutectic alloy
- Final check after 12h burn-in

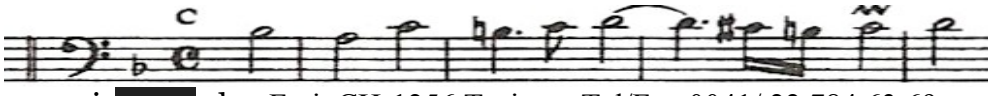
Data:

Phono section:
- Input impedance .....47 kΩ (Optional 3Ω or 12Ω)
- Gain (without step-up transformer).....43 dB
- Input sensitivity (without step-up transformer).....7 mV for 1 V (1kHz)
- Distortion at 2V Output voltage .....0,01 %
- Signal-to-noise ratio at 2V..... .....>88 dB

MC-section (optional):

	HM-3	**HM-X**
- Step-up Hashimoto		
- Gain	26 dB (12Ω) or 32 dB (3Ω)	23 dB (12Ω) or 29 dB(3Ω)
- Bandwidth.....	15 Hz to 50 kHz +/- 1 dB	15 Hz to 100 kHz +/- 1dB

Line section:
- Input impedance... .....100 kΩ



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