

## SA-1500 Stereo Integrated Amplifier

The 300B, a vacuum tube audio amplifier that plays blissful music in a relaxing space



- **MODEL NAME: SA-1500**
- **Color : GOLD / BLACK**
- **Launch: October. 2024**

### 〈Designing Back Ground〉

In the world of audio amplifiers, there is a wide range of types, from semiconductor amplifiers to vacuum tube amplifiers, each of which has its own advantages and can be enjoyed as a hobby for audios. In 2017, Phasemation released the monaural amplifier MA-1500 that is powerfully driven with the coupling of transformers using single outputs of 300B. 300B is amongst the top of vacuum tubes and called “famous valves” having a reputation of sound quality. Then in 2024, to inform the significance of it to more people, we developed the stereo integrated amplifier SA-1500 having a 9W output with a 300B single tube operation.

### 〈Key Features〉

- **A stereo amplifier of a pure A class operation and a self-biased method that exhaustively expresses the attractive sound of 300B.**
- **A non-feedback structure of an all-stage triodes that gives out a rich expression and dynamic sound.**
- **L/R Individual output transformer made by Rundahl (Sweden) that reproduces a no colored transparent sound.**
- **Independent left and right choke transformers that restrains the mutual inference and creates a vivid sound.**
- **Loaded with a “DIRECT” mode that can be used as a preamp.**
- **A low noise design for more clearer sound.**
- **Anti-vibration design makes blur-free sound**
- **Cover made by thicker glass and rigid aluminum make wide sound stage.**
- **A shielding technology that holds the flux leakage and improves the detailed expression.**
- **insulators made by combined various materials of many kinds to produce clear sound.**

- **A stereo amplifier of a pure A class operation and a self-biased method that exhaustively expresses the attractive sound of 300B.**

This device stably drives a speaker at the simplest operation exerting the actual virtue of 300B using a first and second stage amplifying circuit of 6SN7 and lets the output tube 300B operate at a self-biased single pure- class A

- **A non-feedback structure of an all-stage triodes that gives out a rich expression and dynamic sound.**

By structuring a non-feedback amplifying circuit with an all-stage triode called a “6SN7 two stage amplifying +300B”, it achieves a playing performance of a rich music expression and dynamic sound that is possible only for a non-feedback circuit.

- **L/R Individual output transformer made by Rundahl (Sweden) that reproduces a no colored transparent sound.**

The output transformer manufactured by Rundahl is the most suitable for the configuration of this unit and for the sound quality without unnecessary coloration that Phasemation is aiming for.

- **Independent left and right choke transformers that restrains the mutual inference and creates a vivid sound**

Each power supply circuit on the left and right channel has its own independent power choke coil supplying power which eliminates the mutual interference of the left and right channels and clearly amplifies the signals from low to high power levels.

- **Cover made by thicker glass and rigid aluminum make wide sound stage.**

As like the reference model MA-5000, SA-1500 is sound-tuned so that it makes best sound with the cover attached. The appearance is also beautifully designed with heat-dissipating holes in a traditional Japanese pattern on “San-Kuzushi” on the aluminum top part of the glass cover with optimum ventilation. We promise that this beautiful looking vacuum tube suppresses leakage flux of vacuum tubes and makes a wide sound stage.

- **Loaded with a “DIRECT” mode that can be used as a preamp**

By selecting “DIRECT1” among the 3 inputs, it passes the volume circuit and can be used as a pure stereo power amplifier. By directly connecting to the source device that has a gain adjuster, this can be used for people who desire a fresher sound or for people who already have a pre-amplifier, and so forth. This is designed having more choices of usage.

- **A low noise design for more clearer sound**

A thorough low noise is designed by rectifying circuit which is made by ROHM’s high speed switching diode and choke transformer for the high voltage power supply and having all 300B and 6SN7 vacuum tubes heaters ignite from a DC power supply.

- **Anti-vibration design makes blur-free sound**

By following the experience of the floating mount structure as same as MA-5000 that shuts out all vibrations from the power transformer, the noise level is decreased even more. as the result , thanks for this approach, it reproduce blur-free and vivid sound.

- **A shielding technology that holds the flux leakage and improves the detailed expression**

SA-1500 is designed to reduce the flux leakage that the power transformer, choke coil, and output transformer. By reducing it, it can reproduce a rich music sound.

- **insulators made by combined various materials of many kinds to produce clear sound**

Insulators which are combined with different materials are adopted for the legs. By using different materials, it avoids the resonance and bring an ideal rigid and the sound.

SA-1500	Stereo Integrated Amplifier
Input Impedance	47kΩ
Gain	30dB
Output Power	9 W (THD : 5%)
Frequency response	10~40kHz (+0,-3 d B)
Output Impedance	4~8Ω
Power Consumption	140W
Dimension	430 (W) × 240 (H) × 380 (D)
Weight	18 k g



### 〈Planning Background〉

#### History of Phasemation Power Amplifier

Phasemation's power amplifiers started in year 2010 with MA-1, followed by MA-1000, MA-2000, and MA-1500 and finally released MA-5000 in 2022 which is the current reference model.



#### Introducing SA-1500 in 2024 and the designing purpose

Phasemation power amplifiers did everything for each product to please the high-end audio enthusiasts without any compromises which lead to receiving lot of high evaluations. However, the way monaural amplifiers are structured, it occupies a lot of space and the need of high budgets made it not enjoy to everyone. Under such situation there are people who are interested in vacuum tube amplifiers but hesitant in having one. For the first time, Phasemation developed the stereo integrated amplifier SA-1500 for many people who want to start using triode tubes or enjoy using it in the living room.

#### ☆ SA-1500: year 2024



#### Aimed to create a blissful listening experience to be enjoyed in the living room.

。 The most attractive feature of SA-1500 is of course the wonderful sound by triode tubes 300B. Addition to this, its constructed as compact size and the construction which are stereo, and Integrated Amplifier. We developed it so that the desired music can be reached to the heart of the listener even in regular living rooms and not just in special listening room. We, even for the first customer, set it to an affordable price for users who want to use an authentic triode amplifier.



## SA-1500 Technical Detail

### Four particular and stuck point in Phasemation amplifier

There are many commitments in Phasemation's power amplifiers. We can say that Phasemation, as a music playing device, cannot make any compromises. The commitments are

- The amplification method must be pure class A
- Must be a non-feedback amplifier
- The device must use vacuum tubes (triode tubes)
- Must be a monaural structure

#### ■ Commitment 1: The amplification method must be pure class A

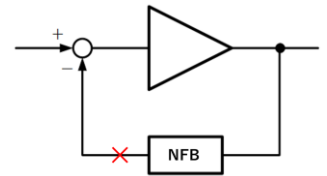
There are many amplification methods for an amplifier. In audios, the general one is class A. Most widely used is class AB, and recently the class D has greatly progressed. Class A (pure class A), as a sound is pure, has a delicate expression, and has vast audio advantages due to its low distortion but the making big output power is not easy and is inevitably costly to design a high-power amplifier.

Amplification	Class-A	Class-AB	Class-C	Class-D
Sound Quality	<b>Best</b>	Better	No Good	Better
Distortion	<b>Best</b>	Better	No Good	Better
Output Power	No Good	Better	Best	Best
Cost	No Good	Better	Best	Better
Size	No Good	Better	Best	Best
Main purpose	Hi-end Audio	Ordinary Audio	Radio Tranceiver	Car Audio Ordinary Audio

However, Phasemation always use pure class A, prioritizing the sound regardless of the effort it takes. SA-1500 of course is a pure class A drive.

#### ■ Commitment 2: A non-feedback amplifier

In general, a negative feedback circuit (NFB) used in an amplifier preserves a bandwidth and useful for stabilizing the amplifier but NFB is not used in Phasemation's amplifiers. That is the same for SA-1500. Since our brand policy is not to control music signals as much as possible, the pros and cons for this are determined by the results of listening tests conducted by our engineers. The results of listening showed that the absence of NFB gave a more dynamic and expressive sound. At Phasemation, whatever is not shown in the specifications, we always judge by listening for the final sound.



#### ■ Commitment 3: The device must use vacuum tubes (triode tubes)

Devices for the amplification stage that make up an amplifier include not only vacuum tubes but semiconductors such as transistors and FETs, each having its own advantages. Phasemation's power amplifier designs from the past have always stuck to use vacuum tubes and especially triodes. Among vacuum tubes, triode tubes are often referred to as "famous valves" in many models. Among triode tubes, the very popular WE300B is used on the final stage and 6SN7 is used on the first and second stages for SA-1500. The sounds from the vacuums are never nostalgic but can be enjoyed with a profound sound and with a unique taste even with modern music. SA-1500's maximum power is just 9W but unlike the 9W of semiconductors, its driving power provides ample playback even with large speakers.



#### ■ Commitment 4: Monaural structure (SA-1500 is stereo)

When pursuing the performance of the amplifier, the ultimate style turns up becoming a monaural structure. The reason is that in order to restrain the mutual interference and improve the separation, a monaural structure has more of an advantage. Until today, Phasemation amplifiers have always committed to design monaural structures. For SA-1500, although for the first time made a stereo structure in order to reduce the cost and make it a useful size, a choke winding from the power supply transformer and a structure with independent left and right signal circuits makes it almost monaural and holds the mutual interference between the channels to its minimum.

### < Features >

#### ■ Technology inherited from MA-5000.

There were a lot of new challenges on the reference amplifier MA-5000 that was released in 2023 and some of those have been carried over to SA-1500

#### Floating transformer that suppresses vibration for blur-free sounds:

The floated structure of the transformer was first adopted in MA-5000, which was in indirect contact with the main chassis so that it will not transfer vibrations from the transformer to the main unit and preserves the fresh sound of SA-1500. The special rubber used here is the same used in vehicles that prevents vibrations and was specially made for this.



Floating system

#### A beautiful vacuum tube cover that draws out a sound of a wide range:

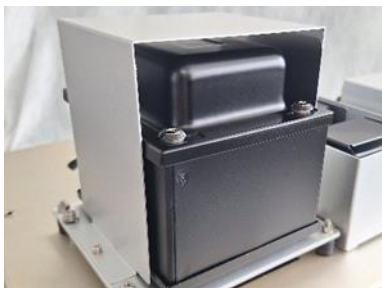
The vacuum tube cover having a Japanese traditional “San-Kuzushi” pattern for ventilation holes on the aluminum top part and the front made from thicker glass makes it look attractive. On top of that, the shield inside the cover suppresses flux leakage and it is tuned so that it attains the best sound with the cover on so the cover should be on when the listening



Power Transformer

#### ■ Many shield technologies aimed for furthermore pure sound

Thorough suppression of flux leakage is not just the vacuum tube covers. The power transformer, choke coil, and output transformer are also thoroughly shielded.



Power Transformer



Choke Coil



Output Transformer

#### ■ An output transformer made by Rundahl (Sweden) that reproduces a transparent sound

Phasemation has been adopting the transformer by Rhundal because the transparent sound that Rhundal is pursuing matches Phasemation’s ideal sound. Rhundal without doubt can be said to be one of the best brands for transformers of today’s audios.

#### ■ Insulator developed for a more rigid clear sound

SA-1500 has anti vibration mechanism for the power transformer and not forgetting, that applies also on the legs. The main unit placed on the rack, table or the floor could absorb the vibration and may lead to deterioration of the sound. In order to hold this back, insulators made of different materials eliminated the resonance and made a structure that defied vibrations.



Insulator



**SA-1500 Technical Detail****■ Usable DIRECT1 input as a Power Amplifier**

The SA-1500 is integrated amplifier it means having a volume control, but when “DIRECT1” is selected among the 3 inputs, it goes to “direct mode” which does not pass through the volume circuit and can be used as a just hi-end stereo power amplifier. Customers who already have a pre-amp or attenuator can make a connection at their own preference.

**■ Usage of high-quality sound parts**

The RCA input uses terminals of high sound quality and gold-plated. Gold-plated terminals are also used for the speaker terminal contacts.

**■ SPECIFICATION**

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