

## **English translation of the Air Tight ATM-2Plus review by Image HiFi magazine in Germany, 2020.**

When the ATM-2 amplifier disappeared from the website of the Japanese manufacturer Air Tight almost two years ago it led to mourning among the fan base. Was that really the end of this sonically extraordinary KT88 design?

The original version has been produced for over 30 years and pairs effortlessly with speakers using 15 inch drivers, as well as large electrostatic and panel speakers, to create an almost unique sonic magic in which control is paired with grace. Anyone who has heard the ATM-2 paired with large studio monitors like a JBL4343 knows what I am talking about.

The Air Tight amplifier manages the difficult balancing act of combining authority with airy, almost weightless reproduction in a delightful, playful fashion. In doing so it behaves very differently than the American made McIntosh MC275, which often leaves the impression that you can hardly walk because of all the power it throws at you.

Over the course of the long production time of the ATM-2, a lot has changed in the audio world, not least of which is speaker construction. There are far fewer big boxes with 15 inch paper cones in the high end scene, but perhaps more importantly, the original British (GEC) made KT88 tubes can no longer be obtained, even with considerable financial expenditure.

The problem is that modern KT88 tubes made in Russia and China can only partially cope with the operating conditions that the Marconi-Osram Valve Company originally set for their valves to be manufactured under the British GEC label. So Air Tight set about designing the ATM-2Plus, a new model that has been significantly revised compared to its predecessor.

The Osaka based developers first step was to lower the anode voltage to 460 volts in order to ensure a sufficient life and safe operation of the KT88's now in production. In doing so the entire circuit was put to the sound test in order to do better justice to what is available today in terms of tube types.

We are talking about the ECC82 which was originally used in the phase splitter stage, but a type of tube that was difficult to find good sounding versions of in the past. For this reason Air Tight changed the circuit in the ATM-2Plus to make use of the very stable double triode 6CG7 in the splitter and driver section. Good quality Russian produced valves are readily available in 2020.

The ATM-2Plus is able to drive difficult loads or loudspeaker systems with a relatively low level of efficiency with its 2x 70 watts push-pull amplification. The number of push-pull concepts that can convey the whole magic of tube reinforcement especially with the KT88 is negligibly small. It is not uncommon for such powerful tube amps to be accompanied by crystalline rigid sound, so that there is plenty of power available but the magic sound of the tubes and the three-dimensional sound is flattened.

The ATM-2Plus behaves quite differently here. With a seemingly limitless bass, this amplifier has a mid-tone which in its dynamic, grace and three-dimensional shape makes the sounds almost palpable, so that the realistic representation grips the listener in a way is able to quickly turn one side of the record

into an extended night session. This means the ATM-2Plus has what it takes to make you increasingly concerned with what high end is ultimately about – music listening!

The ATM2-Plus acts roughly dynamically in such a way that you can't get the grin off your face. The bass drum, which breathes in the low frequency range, is thrown around the ears of the listener completely unimpressed, while the filigree cymbal work illuminates the musical events like glittering stars.

The acceleration speed, a parameter for which push-pull concepts do not exactly define the standard, is astonishingly high. Here no trajectory is rounded off and no detail is blurred, which leads to lack of focus that is difficult to escape. But that is only one side of the coin; the Japanese amplifier succeeds in presenting the internal dynamic relationships in the finest graduations in a completely natural way that can really affect you.

Tonal shades and timbres flood the listening room. Such a masterly coordination between unconditional neutrality and captivating beauty is rarely found. Analytics and sonic magic go hand in hand, and the amplifier has a dreamlike sense of when which of the two attributes has to take the lead. The ATM-2Plus is thereby able to pass both the intellect and the soul of the listener. Atsushi Miura and his development team have actually succeeded in reworking the power amplifier so that it can ignite the same magic with modern tubes as the original ATM-2 with the original GEC KT88's. This may sound like a matter of course on paper, but it is simply a sensation! The valve experts from Japan have achieved something that can only ensure the continued existence of such classic amplifier concepts.

From a cosmetic point of view, attention was also given to the Plus version of the ATM-2. The elaborate monocoque steel chassis now has almost no visible screws on the upper deck which makes the flawless black stove enamel look even more elegant. In view of the masterfully executed point to point wiring with mostly unshielded cables (which ensure low electrical capacitance) such a housing is the basis for absolute silence in operation as it has the role of a Faraday cage. In addition, all sections inside that can influence each other are further insulated with either copper or steel sheets, so that even when the input controls are fully opened, only a tiny residue of pipe noise can be heard with the ear on the loudspeaker.

The screwed on thick aluminium front panel in the typical Air Tight colour scheme is now adorned with a silver, polished name plate instead of the gold one of the old version. As always the fit and finish is absolutely exemplary. The output stage has two input sockets each on the front and rear which are wired slightly differently from each other. The ones on the front are labelled CD Direct and allow a DAC or CD player with adjustable output to bypass a preamp connection. In contrast, the rear input is used when a preamp is connected to the ATM-2Plus. The loudspeaker connections offer upper carrier taps for 4 and 8 ohms.

The inputs can be switched on the front panel and their sensitivity is regulated by channel separated potentiometers. When the level controls are fully opened, the ATM-2plus is already fully controlled with 1 volt input voltage. Here every user can and must adjust their own optimized gain range for the specific chain. The aim here is to ensure that the volume potentiometer of the pre stage can be positioned 10am and 12pm at reasonable volumes. I strongly recommend owners of digital devices that are equipped with an adjustable output to operate them directly with the amplifier.

Thanks to the input impedance of 100 kilo ohms, even outputs with exotic designs and long cable runs are no problem and in such a configurations you have the option of optimising the input sensitivity.

Just like its predecessor, the ATM-2Plus has a manually adjustable quiescent current setting (bias). The amplifier is equipped with a bias measuring device on the front panel, which can be linked to two tail tubes via a switch. Somewhat different than usual, there are not four bias spindle trimmers on the upper deck, but one bias and one balance trimmer per channel. The former is used to set the quiescent current in its entirety, while the balance trimmer is used to distribute this value evenly over the two tubes of the double triode. Due to the fact that the tubes have to stabilise, several repetitions of this procedure are necessary to achieve the final bias adjustment. After about 30 minutes of operation, the bias settings should be verified again and if necessary, corrected.

After about 10 hours, the pre-aged and meticulously measured Electro-Harmonix KT88 tubes no longer have any tendency to drift into their quiescent current setting, so that from this point onwards only a rare routine check of the bias is necessary.

The actual circuit is based on the input of three triodes per channel. The first tube, an EC C83 (12AX7), whose sensitivity can be finely controlled as described above, takes care of the signal processing with regard to parameters such as gain and input impedance. From there the signal goes to the first 6CG7 double triode which controls the positive and negative half-wave of the music signal with its two tube systems in each channel, including the driver stage with one of the two end tubes. Finally, another 6CG7 tube is used as a driver stage for the output tubes, with a negative feedback loop to the input tubes providing the necessary linearisation of the frequency response.

This design is the epitome of true to the motto: "As much as necessary, as little as possible." All six input tubes as well as the four KT88 power tubes are enclosed by Air Tight with the amplifier as a measured set and are clearly marked in their Styrofoam packaging. An illustrated and well written instruction manual, along with very good equipment packaging, rounds off the extremely positive impression that this product is of the highest quality.

As far as the output transformer is concerned (the core of the tube amplifier), Air Tight once again opted for the excellent transformers from the Japanese specialist Tamura. Two monuments made of copper and iron, with a load capacity of 100 watts provide a large part of the total weight of a good 30 kilos - and of course also for the extraordinary sound of this amplifier.

The Plus version has also been further improved compared to the old ATM-2 with regard to the power supply unit and the transformer: the new cut core transformers manufactured in-house by Air Tight shine through absolute silence. There is not even a hint of hum to be heard electronically or electrically. The soundscape inherent in some tube amplifiers of this topology when switching on, which is remotely transmitted to the operation of an electrical power plant is nowhere to be heard with this calibre of amplifier.

It is obvious on many levels that the entire manufacturing process and quality of components is of the highest level. The finely selected components, the outstanding paintwork and the overall appearance of the amplifier exude a value that one cannot find easily in high-end audio. This amplifier opens the door to the entire world of music: whether small ensembles with intimate arrangements or large orchestral works, whether singer/song writer, electronica or heavy metal – the ATM-2Plus always delivers a sound that does justice to the respective musical material so comprehensively, I was left wondering how much time went into the voicing & design of this supreme music communicator.

While listening to Max Bruch's Violin Concerto No.1 in G Minor in the recording of the New Symphony Orchestra of London under the direction of Sir Malcolm Sargent and with the outstanding Jascha Heifetz (Victor Red Seal LP 1963), you inevitably end up with a big lump in your throat – such is the 'unbelievability' of the sound. Heifetz's virtuoso playing on his Stradivarius is so captivating you almost forget to breathe.

The relationship of all the elements represented in the listening space, the way the music 'breathes' as it ebbs and flows, the tone, timing and feel instruments that can be easily localised by your mind.... all of these characteristics make you forget that you are sitting within your four walls. You are immersed in a sound spectacle that is initiated when the needle lands in the groove. Even complex passages are presented to you with striking naturalness and ludicrous dynamics, where both the necessary analytic aspects and a luxuriant handling of timbres and opulent spatial representation are combined. It all happens in front of you 'as a matter of course', as if it is the easiest thing in the world.....

The scope of performance of the ATM-2Plus asks you to think of squaring the circle, with this power amplifier the use of almost all loudspeakers can be considered. It offers performance, control and sensitivity in connection with a seemingly never-ending spectrum of timbres.

If your focus is on playing a wide variety of music you can put an end to the search for an amplifier once and for all. With the ATM-2Plus, Air Tight proves once again that, in the end, nothing can replace an outstanding developer's ear- the biggest compliment that I can give to this small manufacturer in Japan.