

# A very different number?

*Under the model designation E-4000 the successor to the proven Accuphase E-480 integrated amplifier steps into the ring. Is the self-confidence documented in the name justified?*

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Oh, how we have missed it! This bright, radically open sound image, shimmering with liveliness and almost resilient in its dynamic suppleness like only an Accuphase can deliver in this blend. During the buzzing prelude of the orchestral suite "Gli Uccelli" by Italian composer Ottorino Respighi, for example, the brand-new E-4000 integrated amplifier got down to business in such an impulsive and vivid manner which actually made us believe that we were listening to an abruptly startled, frantically fluttering flock of birds. Bravissimo!

Why was there a longer absence of Accuphase in the STEREO reviews? It wasn't our fault, and we hadn't run out of novelties completely, either. But due to the pandemic as well as problems with the procurement of various components and an unabated strong demand, not only in Germany, there were dramatic supply shortages on the part of the Japanese noble brand which are not yet fully overcome. However, simply increasing the staffing level in view of this situation is out of the question for the quality fanatics from Yokohama. Hence the motto is: please join the queue - and customers have priority, of course ...

But now the time has come, and the new E-4000 pays us a courtesy visit. The amp that's immediately recognizable as an Accuphase by its shimmering pale golden front panel with the characteristic, defeatable level meters already represents the twelfth generation of integrated amplifiers from the company founded in 1972, whose credo is commonly known to be the constant evolution and improvement of their product lines. And with its name the E-4000 leaps into the superior power of ten compared to the superseded E-480 reviewed in STEREO 3/19. Is this supposed to announce a breakthrough to new listening worlds?

Looking at the technology, we can see changes in many places. The most significant one is probably the switching to bipolar power transistors. For each channel, eight of these have been put in parallel chains of four, following Accuphase's typical push-pull design with two "hot" outputs. By contrast, MOSFETs were still used in the E-480. As a matter of fact, the engineers' endeavor to improve the damping factor by further lowering the internal resistance of the output stage made this changeover necessary. However, field-effect semiconductors are still found in the circuit layout of the two pairs of speaker outputs, where the Japanese use them instead of the standard relays the contact resistance values and long-term durability of which they consider inadequate. A fast protection circuit which, owing to thermal sensors on the heat sinks, can detect both short circuits and overheating, works via optocouplers and thus stays away electrically from the interference-prone signal flow.

#### Lower noise: AAVA with ANCC

A very unique feature of this ambitious manufacturer is the "Accuphase Analog Vari-gain Amplifier" technology which, instead of a traditional potentiometer or the popular resistor banks, serves as a volume control and is designed to reduce common non-linearities like noise or distortions down to an absolute minimum. The large rotary knob on the right side of the face plate, which is moved by a motor when it's addressed by the remote control, is merely a signal generator and indicates the selected level. This is communicated very precisely by means of red digits between the sensitively twitching pointer instruments with an accuracy of 1 dB incremental steps in their lowest range, 0.5 dB above, 0.2 dB in the next higher range and finally even 0.1 dB at the very top which underscores the reputation of Accuphase amplifiers as no-compromise precision instruments.

By the way: the meters, apparently calibrated to eight ohms, are anything but guesstimates. Because with one watt of output power at this impedance (1 kHz), their hands were almost spot on on the "1 watt" mark. Good job!

The precise level resolution is the result of the, theoretically, more than 65,500 settings by the interconnection of 16 stages that take place in a voltage-current converter into which the signal is fed. Their respective combination determines the overall volume after a further current-voltage conversion.

Compared to the E-480, the engineers have thoroughly changed the layout of the AAVA circuit which, by the way, also implements balance shifts. Moreover, they have added the "Accuphase Noise and Distortion Cancelling Circuit", in brief ANCC, which

- as a correction entity in the fully balanced AAVA output circuit - is supposed to "dramatically" reduce potential interference components, especially at practice-oriented medium listening volumes. The adjective ought to be understood in a rather relative manner since the corresponding specs of Accuphase amps are, in general, far beyond good and bad anyway.

A certain equivalent is found on the board before the speaker terminals, where the "Balanced Remote Sensing" feeds back the already amplified signal in line with the device ground, thereby improving the damping factor and thus the control over the loudspeaker.

But for all those things the E-4000, which is run in the efficient class A/B mode, can depend on its power supply which is as powerful as it is stable. It uses an encapsulated toroidal mains transformer plus two 40,000 microfarad capacitors to make sure that there is always enough energy on tap for the power modules which are mounted laterally on the heat sinks as is typical for Accuphase.

A playground for active listeners

Likewise a characteristic feature: unlike other high-tech components focusing on purism, the E-4000 is nothing but a playground for the active listener. Not only does it provide sufficient connections even for larger equipment parks, it also offers sound and balance controls, a headphone jack (which is no longer a matter of course), pushbuttons for mono or the sometimes useful 180-degree phase reversal, a loudness function and even the possibility of splitting the pre and power amp sections in the event of using the amplifier also in AV chains plus – now listen up, a very rare feature! - a record output with tape monitor function. Clever: in case the pointer show, and thus the display, has been turned off and you wish to adjust the volume, the digital display will light up briefly and go off again immediately afterwards.

A special Accuphase feature which the E-4000 also has on board, of course, are the slots for optional modules that are covered by slim metal strips. These are available as a simple high-level input (Line-10, RCA, approx.160 EUR) for all those for whom the supplied extensive input selection is still not sufficient. Of greater interest are, of course, the AD-50 phono card, which can be used for and adapted to both MM and MC cartridges, and also the high-bit capable DAC-60 D/A converter sibling (approx 1,010/1,300 euros) that is equipped with a coaxial and a fiber optical input as well as a USB interface.

STEREO has already reported more than once about these, by all means, first-class extensions which leave nothing to be desired in terms of sound and also meet the very high standard of an E-4000. Since via the plug-in modules the shortest possible signal paths can be realized (which may save you from buying expensive cables), and because these are conveniently linked to the mains potential of the amplifier (which prevents critical balancing currents as they occur between separate components), it makes this integrated solution all the more interesting.

At the beginning of this test we have, so to speak, already spilled the beans. But that's the way it is: anyone who connects the E-4000 to his or her loudspeakers will be thrilled by its stupendous joy of playing, its finely finessed precision and the musical breath. Please, please do connect the amp in phase with mains (see diagram) so that it can really unfold its true potential.

#### Tingling esprit

What happens now? The often experienced and yet always fascinating Accuphase show which seems particularly sophisticated and compelling in the E-4000. Are you in for a taster? FIM's superbly sounding "UltraHD" disc with highlights from the legendary program of the Japanese jazz label "Three Blind Mice" was rotating in the current CD player DP-450 of the Nippon company. The prominent resinous cello bow strokes on "Aqua Marine" were almost physically perceptible, with the little bells ringing brightly around them, while the bass underlaid the enchantingly distinctive gossamer sound web with a full, but contoured and agile foundation, and the hard hit cymbals came blasting out of the speakers in such a buoyant and spirited way that one could feel a pleasantly tingling sensation running down the spine. goosebumps feeling included. After several pleasurable hours of listening we can sum it up: with the E-4000, things won't get boring even for one second.

The explosive dynamics - always a special highlight of Accuphase amps – play an important part here. Not only do they shock unprepared listeners by huge level jumps like in Tsuyoshi Yamamoto's brute, rock hard piano strokes on "Midnight Sugar", but - notably by the attentive implementation of ultra tiny gradations - also creates an exceptional liveliness, a subtly differentiated timing with decidedly set transients and, last but not least, a smooth flow. This all the more proficient since the noise floor generated by the amp is extremely low.

Also and especially in comparison with other top amplifiers, the Accuphase proved its skills for tingling musicality and brisance fraught with tension. It has a knack of how to

captivate the listener, to take people into the performance. The music never seems to just ripple along; the E-4000 takes care of it by exposing its emotional core and conveying its impetus. And this it does in the guise of an effortlessly nonchalant confidence, even when the volume approaches critical levels. If one reason for the new layout of the AAVA board was an enhanced channel separation, this is actually improved by ten decibels over its predecessor. Which is certainly one of the reasons for the wide, high and deep stage that the E-4000 is capable of picturing. Here it seems to us that it's not only a new and higher, but actually a really different number.

*Matthias Böde*