

Accuphase Pre-amplifier C-3800 & Power Amplifier A-65

Maestoso

by Wilfried Kress

Indeed a magic moment of amplifier making: the brand-new, ultimate Accuphase pre-amplifier C-3800 and Class-A power amplifier A-65.

Respect usually isn't heaven-sent, respect must be acquired through hard work. This has always been the case, even though I venture to say that it is much more difficult in our modern age than ever before. Too often these days, even the most extraordinary is reduced to its mere value-for-money in Euro, Dollars or Yen, to be acquired like a duck takes to water, so to speak.

We all see the ambitious efforts and expenses standing behind a technical product or an artwork, yet often not more than that. The callousness in us allows hardly any freedom for genuine respect, for instance, those who have heard the "Appassionata" for the umpteenth time may no longer be easily taken by surprise. And have you never heard among your audiophile friends some notorious snappy and cool statements about high-end components, which could go like this: "I know it, heard it, forget about it" - i.e. without the slightest vibration of esteem for the achievement of others.

But there is still another way to go. In the past weeks we've become aware of the acknowledgement and respect amplifiers from "Accuphase Laboratory Inc." have received from other people of the trade. The fact that Class-A amplifiers from Accuphase have often been warmly recommended to us is merely a note in the margin here. Yet if an old hand from the guild of amplifier makers starts raving after having spotted the Accuphase components in our listening room, that says it all (to quote him: "If wouldn't build amplifiers myself, I'd certainly buy those from Accuphase"). Another developer marvelled at the power meters of the A-65 and said "You could actually calibrate your own measuring equipment with them". If one is aware that the indicators of most power amplifiers are usually nothing but "guesswork", then one can perceive a large amount of respect in this statement. Hence, I'm quite sure that this respect will in no way diminish when the brand-new Japanese super preamp is going to enter the stage. It's because this C-3800 has not only messed up our testing procedure a bit (which was easily accepted, mind you), the C-3800 is also a first-rate technical masterpiece. But first things first.

Actually, for the "special amplifier" issue you are holding in your hand now we were counting on the Class-A amplifier A-65 alone. It was already here together with the preamp C-2810 and the CD/SACD player DP-700 (tested in issue 04/2008) in order to get a sonic impression of the entire Accuphase chain. Then we got wind of the C-3800: super-complex, super-expensive and a big temptation. We couldn't say no, of course, and hence this review was to become a double test for several weeks.

As far as the visual appearance is concerned, there is hardly any difference between C-3800 and C-2810. Again, the new one features ventilation slots in the housing cover yet it lacks the operational controls for the phono section (sorry, lovers of vinyl will

have to resort to Accuphase's external C-27 we tested in issue 03/2009).

But this became obvious only after having opened the sub panel. In brief, less features for a considerably higher price and the quest for meaning that comes along goes like this: can Accuphase significantly improve such an elaborate pre-amplifier like the C-2810? After all, if closely looked at, a high-level pre-amplifier is nothing but an attenuator which has to fulfil merely three functions: input selection, volume control and output stage for driving the interconnects to the power amplifier. So, what's the difficulty here? Where is the technological challenge?

Well, in the details, as always in high-end. Simple tasks at first sight can turn out to become a real challenge on closer examination. Nearly all makers agree that the ultimate volume control is demanding the highest attention. In this respect, some interesting concepts could be realised in the past couple of years. In a presentation, Accuphase documented the progress of potentiometers implemented in its own pre-amplifiers of the past decades. They are shown on the next page above right (whereby once again a picture says a thousand words): from the C-200 of 1973 to the C-240 (1978) in Class-A operation, DC servo control and conductive plastic potentiometer. Then the balanced C-280L (1987) was launched, of which the V-version of 1990 had been equipped with the finest potentiometer from Matsushita and thus having set a benchmark of developments towards the most precise control of signal voltages.

In the year 2002 however Accuphase paved the way for a completely different approach in its own right, whereupon they presented the proprietary AAVA concept with the C-2800. This abbreviation stands for "Accuphase Analog Vari-gain Amplifier" which conceals nothing but a farewell to potentiometers of conventional make and all their problems like channel imbalance, changes in output impedance and last but not least, a lack of long-term reliability. A potentiometer is a variable resistor for the attenuation of signal voltage. In order to get rid of this, Accuphase converts the signal voltage into a current gradation. 16 voltage-to-current converters per channel allow a resolution of 65.536 combinations, which can be considered more than fine enough. After summing up the current is transformed into a voltage again, whereby the provided output voltage, which is determined by the current switches, is then equivalent to the desired volume level. In the C-3800 the AAVA circuitry has for the first time been realised in fully balanced configuration. According to Accuphase, altogether 36 converter amplifiers are to yield a virtually noiseless current source. Well, the measurements in our lab are going to reveal if this is true.

In the good tradition of Accuphase, the sub panel of the C-3800 has much more to offer. Gain can be selected in three gradations. A volume correction dubbed "Compensation" is augmenting the lower frequencies in music when listening at low volume levels. Here again three different positions can be selected (however, as opposed to a conventional "loudness compensation", the high frequencies are not augmented). And the C-3800 is equipped with a dedicated amplifier module for dynamic headphones as well as with switches for absolute phase and monophonic rendition. Lastly, the display can be switched off, too.

Owing to the arrival of the new super preamp, the "Class-A-darling" A-65 has fallen behind a bit. I was really looking forward to this top component in the Class-A range of amplifiers in Accuphase's portfolio, which have already gained an excellent reputation through the predecessors A-50 and A-60. With a weight of 43 kg the new A-65 is a real "high-end calibre" and therefore the solid handles at the front and rear do make sense

indeed. And, yes, during operation this amp is getting warm through and through.

In the technical specifications of the A-65, Accuphase guarantees an ultraconservative average output power of 120 watts into 4 ohms, whereby we measured 208 watts and this at a mains voltage of merely 221V. By the way, the power meters, which, if desired, can be switched to store and indicate the peak values for each channel, are very reliable.

In the centre inside the A-65 is a cased 1,000 V/A toroidal transformer accompanied by two really “beaker-sized” electrolytic capacitors with 82,000 μ F each. Accuphase favours power MOS-FETs and current feedback for stable phase characteristics. Altogether 20 transistors from Toshiba (type K3497 and J618) per channel arranged in parallel push-pull configuration are taking care of substantial “steam” at the output. And those who are perhaps longing for double the power can switch the A-65 to bridged operation, whereby – it actually goes without saying – a second A-65 is needed for the other channel.

In the A-65 the signal path is also fully balanced and the amplification factor (gain) can be selected by four gradations. In teamwork with preamps from Accuphase, it is recommended to have the gain set to “Max” in the A-65 and to “18 dB” in the C-3800 or C-2810. Compared with the A-60 the output stage was left unaltered, yet according to Accuphase the damping factor of the A-65 had been augmented from 100 to 400. As the A-50 and A-60 seemed to tend towards a rather round and soft rendition, some more ruling over the speakers can certainly not be a bad thing. And yes, indeed, the A-65 sounds a tad more open and controlled when I think back to the sonic performance of the A-50, for example.

However before we proceed to the listening test, we should briefly reflect on this crucial question: do we need a pre-amplifier at all? Well, we may have to resort to a tie-breaking verdict here, namely “in principle yes, but...”. Ultimately, this is greatly depending on the quality of the output stage in the driving source and sure enough on the quality of the pre-amplifier employed. Klaus Renner, the co-founder of the High-End *Society* [in Germany] made this statement already in 1988 [*Das Ohr* (The Ear), No. 24]. Not much has changed since. Generally, passive volume controls are giving away some dynamics and control, whereas digital adaptations at 16 Bit are usually sacrificing resolution. It can be assumed that high-end-made pre-amplifiers are much more elaborate and hence less compromised than the variable output stage of a CD player. And this is why in nine out of ten cases music sounds simply better when heard through a pre-amplifier. All in all, the fundamental tones are more pronounced, resolution appears more detailed whilst the soundstage has more three-dimensionality and depth.

Certainly, this does not apply to every run-of-the-mill preamp, yet the C-3800 has once again convinced my ears as to how important this component is in a high-end chain. After its arrival we compared it “cold”, i.e. right out of the shipping box, with the C-2810 that has already been sucking on the mains for several days. It was immediately audible that the new one had some tangible virtues. Nevertheless, experience told us to calm down and rather have the C-3800 sent first to the friendly photographer and then to our lab for measurements, whereupon we would have it back in our listening room in order to stay under continuous operation.

Therefore, under these circumstances it was not really difficult to clearly answer the “quest for meaning” mentioned above: those who are going to compare the C-3800 with the C-2810 in an Accuphase chain are going to take a great risk – they will likely be lost

and unable to turn back (provided they've also got the necessary small change).

The C-3800 has simply more tonal authority and resolution to offer, whereas the C-2810 still sounded with a sort of “electronic flavour”, no matter which power amp was to receive the signals. In fact, the C-3800 works wonders: if one of the high-definition pre-amplifiers conveys a sound without any “technical artefacts” then it's the new big Accuphase. This preamp lacks any nervousness. It plays with wonderfully deep sound colours and exceedingly cultivated.

“Poetry clad in silk”. I remember this from a song by Paul Simon and I think this is what describes the essence of the C-3800 to the point. The very high level of authenticity rendered by the C-3800 is deriving over and over again from its astonishing richness in tone, the precision of its transistors notwithstanding. In comparison, the Soultion 720 seemed slightly more controlled and present, whereas the likewise extremely neutral Mark-Levinson 326S sounded just a tiny bit leaner and thus has put itself in between the C-3800 and C-2810.

However the closest approach to the “expressiveness” of a valve preamp is without doubt achieved only by the Accuphase C-3800, and you can be sure it's doing that without hidden tricks: at least in the “in-house” environment of DP-700 and A-65 this preamp is up front with respect to sound colours, atmosphere and three-dimensionality.

The euphonious share of the A-65 within this splendid rendition should not be underestimated, though. It contributes a dash of warmth and richness, offside all transistor chilliness, whereby it plays slightly more succinct and perhaps a wee bit more transparent than its predecessor. The A-65 should in any case be driven in balance mode, but otherwise and quite honestly, there isn't much to do wrong with this dream amplifier. Class-A has simply got a magic of its own. Thus, Accuphase is far ahead also in this league.

Please excuse me if I'm right away going back to the C-3800, but I still would like to reveal that this preamp has practically no weak spot, just as much there is hardly anything to nag about with respect to the entire Accuphase chain. One evening during the testing season, Stefan Gawlick and I were in our listening room whereby he reasoned that it's pretty disillusioning if he recalls his own efforts to compile a decent audio system and one is then going to hear something like that. Admittedly, the Accuphase chain in teamwork with Magico V2 speakers and completely wired by HMS Gran Finale Jubilee interconnects has indeed got something “incontestable”: the sound is gorgeous, palpable, musically meaningful and marvellously fluent. Put in a nutshell: it simply sounded like real music! “Money *is* scoring goals, after all”, I said, whereupon Stefan Gawlick remarked that this can without doubt be applied to Accuphase and Magico. It was a very nice evening – and an instructive one, too.

Conclusion

With the C-3800, Accuphase has launched an absolutely world-class pre-amplifier, which even among the best of the best excels in terms of sound quality and technological achievement. And - oh so sorry - it leaves the hitherto in-house top preamp C-2180 behind by quite a clear margin. In view of the outstanding craftsmanship and perfection in details the high price is certainly justified. And the A-65 is a recommendation par excellence among the power amps from Accuphase. Class-A, well, that's just the way it is.

Lab Report

Together with the Soultion 720 and Mark-Levinson 326S, the Accuphase C-3800, too, has set an absolute benchmark for pre-amplifiers when it comes to measured

specifications. Among this selected trio the Accuphase is slightly ahead of the others

regarding the sum of technical properties. Compared with the C-2810 however, the most distinguishing difference is not to be found in the distortions, which are fractional, but rather in the signal-to-noise ratios: on average, the C-3800 betters its older brother by 5 dB. Yes, one must have a look at the noise spectrum of the C-3800 in order to understand what perfection really means. The A-65 is likewise an excellent sample of having mastered technical specifications, as we couldn't detect the slightest shortcomings and, once again, the signal-to-noise ratio is simply outstanding. It will become very difficult for others to compete with this brilliant amplifier combination. From the perspective of our lab, Accuphase deserves the highest respect and appreciation – hats off!