

What are the design concepts and conditions informing the A35.8 design?

We have received questions and comments regarding our design choices in creating the A35.8 eight channel bridgeable home cinema amplifiers, including:

- Why eight channels, and not three and/or five channels?
- Why Hypex output modules and not UFPD technology?
- Why has there been a price increase?

The information below hopefully answers those questions and allow for a better understanding how our experience and practical design philosophies inform all our development and design efforts, including our home cinema line.

First, we do not do anything for marketing purposes. And while it would have served our marketing purposes best use UFPD 2 technology in our new multi-channel models it would not have allowed us to meet our goal of providing the best possible experience for the greatest number of people while improving on the performance of past models in every way.

It is not possible to gauge the sound quality of any Primare model based on a single part or circuit component, as this disregards the experience that our design team has gained in over thirty years of creating high performance electronics of good value following a practical design approach. And in the case of an amplifier, it is not the output module that determines the sound quality, but the total design, including the critical power supply and input stage, as well as careful voicing and tuning of the design in the final listening phase.

To that point, the lessons learned from that experience and our practical design approach are as follows:

- A30.3 – we learned from our design and launching into the market the A30.3 that there was insufficient interest in a three-channel amp, as the resulting amp was one of our least popular items, even though it was great sounding, and did not turn a profit; profit we need to provide ongoing service for past products and new product development. In contrast, the A30.5 and A30.2 amplifiers, essentially five and two-channel versions of the three channel A30.3, are among our most popular.
- A30.7 – while as popular as the A30.5, the experience of going through the necessary effort of miniaturizing the UFPD circuitry and design of the incredibly robust power supply required, combined with our limited production needs meant that this amplifier was also simply too expensive to produce at an affordable price to be as profitable as we would have liked. Additionally, some customers who needed only five channels of amplification expressed their dissatisfaction with having to pay for amplification they did not need nor want.
- 15 Series - because of our great success with implementing the UcD Hypex modules in our 15 series amplifiers, we elected to use the same module in the SPA25 Prisma, and the somewhat more sophisticated NCore Hypex modules in the A35.8 eight channel amplifier.



Note that when initially demonstrating the new range of amplifiers, we found that after first demonstrating the UFPD 2 based I35 amp and then demonstrating the Hypex based I15, we had to play the I35 amp again to confirm for our somewhat confused audience that the I35 was in fact superior sounding, as many felt that the smaller amp may have been as good sounding as the bigger and more powerful amp. In many ways this pleased us, as we work very hard to maintain the Primare “sound” in every amp we build, and this confirmed that we had succeeded as the difference is mostly in an increasingly greater sense of ease in producing a much larger and detailed soundstage as you move up the line of amplifiers.

- Class D design – due to the strict constraints imposed by class D amplification design there are only a limited number of things that can be done to produce the best sound. Our efforts, in cooperation with our amplifier module consultant, Patrik Bostrom (now Chief Technology Officer at ICEpower), and using various patents he holds over the years, we have created UFPD, and now UFPD 2. In general, but not necessarily in detail, these mirror the design steps taken by Bruno Purzeys at Hypex and now Purifi. These are in brief:
 - higher oscillation frequencies, allowing for less intrusive output filtering characteristics, which leads to more linear gain across the frequency bandwidth
 - a complete feedback loop circuit allowing for greater control and ultra-low output impedance
 - and attention paid to avoid unnecessary hysteresis effects

In fact, NCore is similar to UFPD (both have 300 MHz oscillation frequencies for example), as Eigentakt is to UFPD 2 (both with 500 MHz oscillation frequency).

- Pricing - while we still believe in the superior performance capabilities of our UFPD and UFPD 2 amp modules, we are constrained by the economies of scale that mean the costs for our very limited production modules are far greater than for more mass-produced yet thoroughly designed and engineered modules from companies such as Hypex. Combine those inherent costs with the additional design and engineering efforts required to effectively miniaturize the amp modules to fit in reasonably sized amp chassis, means that for all practical and performance purposes the choice of the Hypex modules makes the most sense, allowing us to continue our tradition of delivering high performance at a more reasonable price.
- Current conditions - further impacting our decision-making process, is that the pandemic has further increased the effects of the already existing global semiconductor shortage, causing all component parts pricing to be at an all-time high, with extended delivery times of a year or more for those higher priced parts, resulting in spot market prices for more immediate delivery being as much as 30x higher than normal.

Therefore, we determined to build a high performance configurable eight channel amp that could serve multiple system needs, in partnership with the A35.2 stereo amp, at as reasonable a price as we can given the circumstances.

However, it should not be inferred that the A35.8 is compromised or inferior in any way by using the NCore output modules, as during the listening and final voicing phase of the design we frequently compared its sound to an A35.2 to be sure that they shared the same sound. In fact, we often compared the two just to be sure that the multi-channel amp did not actually sound better than the UFPD 2 based stereo amp. For the record, it does



not, but it is close, which is why it the two can work together so effectively in the variety of configurations listed below, taking advantage of the bridging capabilities of the both the A35.8 and A35.2.

- 5.1 Channel System – bridge three pairs of outputs for Front Left, Right, and Centre speakers, with the remaining two outputs for a pair of rear speakers.
- 7.1 Channel System – bridge a pair of outputs for the Centre channel with remaining outputs for the remaining six speakers
- 7.1.2 Channel Atmos System – adding an A35.2 stereo amp for Front Left and Right speakers, bridge three pairs of outputs of the A35.8 for Centre, Rear Right and Left speakers, with the remaining pair of outputs for a pair of height speakers
- 7.1.4 Channel System – as above adding an A35.2 stereo amp for Front Left and Right speakers but bridging only one pair of outputs for the Centre speaker, with remaining six channels for pairs of Rear, Surround, and Height speakers, or a pair of Rear and two pairs of Height speakers.
- 7.1.4 Channel High Power System – three bridged A35.2 amps for Front Left, Right, and Centre speakers, and A35.8 for Rear, Surround, and Height speakers.
- 9.1.6 – two A35.8 amps, one pair of outputs bridged for Centre speaker, and remaining outputs for Rear, Surround, and Height speakers.
- 9.1.6.1 – two A35.8 amps for full Auro-3D system.

AND for an extraordinarily powerful two channel bi-amplified system, one A35.8 all pairs of outputs bridged providing peak power of 4 x 370 watts or 740 watts per pair per channel at 8 ohms in a stereo system.

All that for ONLY 5000€!

Available April/May 2022 (assuming the pandemic doesn't provide yet more surprises ;-)

