

# Primare A35.8

With no fewer than eight channels (bridgeable to four), Primare's most powerful amp to date will service the most ambitious bi-, tri- or quad-amp loudspeaker solutions  
 Review: **Mark Craven** Lab: **Paul Miller**

It goes without saying that an eight-channel power amplifier is unusual. In the hi-fi world, two channels is the default, and even in multichannel home cinemas the trend is to start with five or seven and then, if you must, add more in pairs. Furthermore, the A35.8, priced £4500, arrives not from a specialist custom install brand, or an audio company with pro studio leanings, but from Primare.

In the last ten years or so this Swedish manufacturer has focused on high-end hi-fi and simplicity of use, embracing streaming technologies and app control in its Prisma series, and moving away from the AV lines that were a key part of its business in the 2000s. Under the 'Philosophy' tab on its website there's even a lengthy description of the concept of 'lagom', a Swedish word meaning, basically, 'just the right amount'. Given all that, possibly the last thing we expected Primare to launch in 2022 was an eight-channel power amp.

## FLEXIBLE FRIEND

Yet if the A35.8 appears a little out-of-left-field, it begins to make sense once you drill down into the detail. The channel count reaches eight because, sensibly, Primare has built it around bridgeable pairs, which means none need go to waste in a home cinema environment. Suggested uses are for the left, right and centre channels of a 5.1 AV system to all be bridged, or to bridge the centre channel in a 7.1 set-up. And for the expansive speaker arrays of the custom install market, the A35.8 can join forces with one or more Primare A35.2 stereo power amps [HFN Dec '19]. There's a 16-channel processor in the pipeline too, which will become an obvious partner.

It's this bridging potential (plus, of course, bi-amping) that also gives the A35.8 appeal to music lovers. Yes, no one would buy this amp to run a pair of

**RIGHT:** A substantial switchmode PSU, with APFC [lower portion of cabinet], feeds eight Hypex NC500 Class D modules arranged as four stereo pairs [on heatsinks, centre]. All input/mode switching is on the rear strip PCB [top]

speakers from just two channels, not least because its A35.2 sibling is available to do that for less money. But consider its ability to deliver a claimed 150W/8ohm from all its channels simultaneously [see PM's Lab Report, p55], or the potential to bridge its eight outputs to four pairs, and then use these to bi-amp for a claimed 740W/8ohm per speaker – and owners of loudspeakers that are equipped with split crossovers will be licking their lips.

Delivering this grunt are eight Class D Hypex NC500 modules, a change in technology from the UFPD2 devices found in the company's A35.2 [see PM's boxout, p53], but still sufficiently compact and cool-running to

allow them to be housed in an easy-to-manage 430mm-wide enclosure.

## SHORT ORDER

The powerplant for these modules is a newly designed switchmode PSU that employs custom wound transformers and APFC (active power-factor correction) for improved efficiency. The audio circuits, meanwhile, have been configured with a keep-it-short approach, deploying surface-mount components wherever possible across the four-layer boards while the Class D modules are connected directly – solder-free – to the loudspeaker binding posts.

'The mass of strings were quivering and melodic'



Primare neatly arranges all this engineering within a pressed-steel enclosure, available in either a black or titanium finish, which sports an anodised aluminium faceplate. Like many power amps, styling is best described as minimal, although embellished somewhat by the company logo imprinted on the ventilated top panel and fascia. As on the A35.2, the front logo also hides the standby button, with the amp's status signified by a small, I'd say barely visible, white LED.

## CLIP ON

The boot up process is quick, and is accompanied by red LEDs illuminating within the chassis to show the amp's clipping sensor system is operational. These then dim, but will – apparently – flash if you've managed to force any of the A35.8's modules out of their comfort zone. There's

also an auto-sense mode, which wakes the amp from standby when a signal is detected, plus a defeatable auto-standby that kicks in after 20 minutes.

Naturally, the rear panel is busier than that of a conventional power amplifier. RS232, 12V trigger in/out and IEC sockets are squashed into the far right, making space for its forest of inputs and speaker terminals. Each of the eight channels is served by single-ended (RCA) and balanced (XLR) connections, above five-way binding posts (with markings to signify the bridging terminals). Each channel pair (1 & 2, 3 & 4, etc) is accompanied by a switch to flick between RCA or XLR inputs, plus bridged, stereo, or bridged (+6dB) operation.

Even with its Class D amp stages, the A35.8 is still weighty enough at 15kg thanks largely to the internal heatsinking

**ABOVE:** The A35.8's power switch forms part of the fascia's central logo, cut into Primare's typically understated but superbly-finished fascia. Black and silver colourways are offered

and metal chassis. It sits on three feet, rather than the traditional four, with these arranged in a triangular pattern.

## STEALING THE SHOW

Connected via a Primare PRE35 preamp [HFN Dec '19] and initially driving Perlisten S7t SE floorstanders [HFN Apr '22] using just one stereo Class D module, the A35.8 impressed me from the get go. Even in this guise, it clearly has a lot under the bonnet, and this manifests in the way it digs down into the lowest octaves of music, giving basslines a big, thick sound. It stands to

attention with transient details, but, even better, there's a feeling of loose-limbed energy all the time, not just when the explosive moments arrive. So the experience of listening to the

A35.8 is of an amp that's never out of puff – even more so,

as I discovered later, if you start bridging.

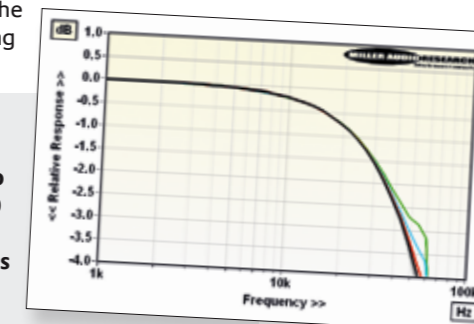
I dug up Opeth's prog rock/metal triumph *Blackwater Park* [Music For Nations CDMFN 264], skipping to the title track. Here the amp responded superbly to the low-slung guitar riffs with an overall sound that felt fit to burst my listening room. Steve Wilson's production places the guitar and bass parts across the soundstage as one single, full-range entity, with a fat metallic tone, and it's a stylistic trait that was ably conveyed by the A35.8.

'Blackwater Park' is one of the 'biggest' tracks I can think of, but the amplifier's delivery of musical swells was apparent →

## MULTICHANNEL POWER

Rather than use its own UFPD2 (Ultra Fast Power Device) Class D modules that we saw in Primare's A35.2 stereo amp [HFN Dec '19], the A35.8 utilises eight Hypex NCORE NC500 modules, mounted as pairs on custom heatsinking, to form four discrete stereo banks. The single-ended Hypex modules are used to impressive effect in many products, including Primare's own I15 [HFN Oct '18]. A key feature of these modules is the integration of both the switching and low-pass filter stages within a global feedback scheme, yielding a predictable frequency response and distortion regardless of variations in the speaker load impedance. The inset Graph demonstrates the A35.8's unchanging responses into an open circuit (grey) and also 8ohm (black), 4ohm (red), 2ohm (blue) and 1ohm (green) speaker loads [note the 1kHz-100kHz scale] – other Class D solutions may show wild variations in response under these same conditions [see HFN Dec '21].

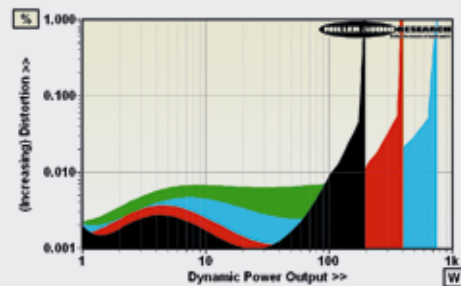
The efficiency of Class D operation – over 90% at full output – makes it ideally suited to high power applications, over many channels, without excessive heat or heavy casework. The switchmode PSU, with dual APFC (active power factor correction), also optimises efficiency while keeping weight down to an absolute minimum. Nevertheless, while each stereo 'block' will deliver 2x195W/8ohm the A35.8's simultaneous eight-channel output is necessarily 'limited' by the 1.5kW capacity of the PSU, and efficiency losses, to 8x170W/8ohm or 4x340W/8ohm in bridged mono – surely more than enough for any bi-amp'd system! PM



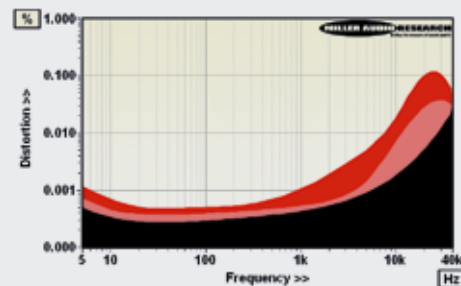
## PRIMARE A35.8

On more than a few occasions I've mentioned that the 40dB+ gain built into modern integrated amplifiers (6-12dB for preamps, 25-35dB for power amps) is unnecessarily high for the 2V line output of most likely line sources. Primare's A35.8, however, has a far lower 19.8dB (x9.8) overall gain via its balanced XLR inputs, meaning that 289mV is required to raise 1W/8ohm or a full 3553mV (3.6V) input to realise the rated 150W/8ohm. The 89dB A-wtd S/N ratio (re. 0dBW) is very wide in this context, and especially so for a Class D architecture. To push the A35.8 to its limits [see boxout, p53] you'll need in excess of 4V from your preamplifier – well within the compass of contemporary designs – because it'll deliver closer to 195W/8ohm and 373W/4ohm with 197W, 400W, 765W and 399W into 8, 4, 2 and 1ohm loads under dynamic conditions [see Graph 1, below]. The 'stiff' power output, very close to the theoretical doubling from 8 to 4 to 2ohm, is traded in these fine Hypex NC500 modules for almost zero headroom – so the A35.8's power output has the same limit whether it's measured under continuous or dynamic conditions.

The output impedance is a very consistent ~0.02ohm (20Hz-20kHz) and while the frequency response has a slight treble roll-off, amounting to -0.8dB/20kHz to -6.9dB/100kHz [again, see boxout], the A35.8's bass extension is truly subsonic, reaching -0.2dB/1Hz. Harmonic distortion holds to as low as 0.00045-0.0055% (20Hz-20kHz, re. 10W), typically increasing at higher treble frequencies and with increasing output [see Graph 2]. CCIR intermodulation distortion is especially low at just 0.0002% (re. 19kHz/20kHz at 10W). There is a lot of amplifier here! PM



ABOVE: Dynamic power output versus distortion into 8ohm (black trace), 4ohm (red), 2ohm (blue) and 1ohm (green) speaker loads. Max. current is 20.0A



ABOVE: Distortion versus frequency versus power output (1W/8ohm, black; 10W, pink; 100W, red)



ABOVE: Arranged in four stereo banks, each amplifier 'module' has XLR and/or RCA inputs (selected via toggle switches) and may be bridged to form higher-power single-channel outputs. Auto signal sensing, trigger and RS232 control is included

in other places. For example, Etta James' mesmeric 'At Last' [Geffen Records; 192kHz/24-bit] begins with a mass of strings, quivering and melodic, that grows in both volume and size, before her pristine vocal sashays in centre-stage to steal the show. What I'd previously considered to be a sedate, easy-listening track now sounded close to operatic. Similarly, Danny Elfman's 'The Longest Walk', from the soundtrack album to *Midnight Run* [MCA; 44.1kHz/16-bit], was presented as a surging slab of bass and synth, with blues guitar dotted middle and left.

### NO PLACE TO HIDE

While this amplifier's driving power is immediately, thrillingly apparent, it doesn't take long to realise that – with a good-quality preamp in the system – it has a musical ear too. 'Mobocopter', on the Danny Elfman set, features ecstatic brass chords, fuzz-guitar, a major key piano motif, hard-hit snares and jangly percussion. It's a deceptive range of textures and tones, but all shone through, some subtle, others biting, as the A35.8 showed little desire to impose a flavour of its own. Transparency, that facet sought after by many, is obvious.

The soundstage created is wide and detailed, but a touch forward. Having intended to listen to Elmer Bernstein's 'Magnificent Seven' theme but accidentally calling up 'The Magnificent Seven' by The Clash [*Sandinista!*, Sony Music; 96kHz/24-bit], I was pinned to my seat by an eruption of funk percussion and reggaeish guitar chords. This element sounded fantastic, although I can imagine some might prefer a more laid-back flavour. It was also all-to-easy to discern how the proto 'rapping' of frontman Joe Strummer is disconnected from the music around him – this amp doesn't give any element of a track room to hide.

Using the PRE35's dual output, I bridged all four channel pairs, and

then bi-amped both my regular B&W 705 S2s and Perlisten S7t SEs. The result was even more of a sense of fast-footed power, and my notes included the words 'beefier' and 'fuller'. These are just words, of course, but take it from me how utterly rich and inviting this configuration sounded with Dusty Springfield's 'Son Of A Preacher Man' [*Dusty In Memphis*, Rhino Atlantic R2 8214; 96kHz/24-bit], or how much sheer presence and dynamic attack it bought to the drum track of Joe Bonamassa's 'Sloe Gin' [eponymous; Provogue PRD 7218 2].

The million dollar question – okay, the £4500 question – is how much of the A35.8's output is really 'usable'. With the aforementioned speakers, I never got the chance to find out. I was listening happily at room-filling levels, worrying only about my neighbours and not distortion. 'My Demons', from Tears For Fears' *The Tipping Point* [Concord Records; 44.1kHz/24-bit], was delivered as fully energetic electropop, all clean lines and pure fidelity, even while the rhythmic drums and percussion pounded away. On this evidence, any speaker that benefits from a kick up the proverbial will find Primare's latest power-pusher an able partner. ☺

### HI-FI NEWS VERDICT

Spending £4500 on eight channels of power won't be at the top of every stereophile's to-do-list, but Primare's A35.8 is a rare product that straddles the worlds of multichannel and hi-fi with aplomb. Its amp stage delivers scads of unblemished, responsive power, while its bridging ability is there to keep hungry loudspeakers well fed – and all this comes from a box no bigger than some monoblocks...

Sound Quality: 87%



### HI-FI NEWS SPECIFICATIONS

Power output (<1% THD, 8/4ohm)	195W / 373W
Dynamic power (<1% THD, 8/4/2/1ohm)	197W / 400W / 765W / 399W
Output imp. (20Hz-20kHz/100kHz)	0.019-0.021ohm / 0.19ohm
Freq. resp. (20Hz-20kHz/100kHz)	+0.0dB to -0.8dB/-6.9dB
Input sensitivity (for 0dBW/150W)	289mV / 3553mV
A-wtd S/N ratio (re. 0dBW/150W)	88.8dB / 110.6dB
Distortion (20Hz-20kHz, 10W/8ohm)	0.00045-0.0055%
Power consumption (Idle/Rated o/p)	62W / 220W (1W standby)
Dimensions (WHD) / Weight	430x145x400mm / 15kg