

# *A Head Of Its Time*





Are valves are no longer important for great tone?  
Yamaha brings us to a possible watershed in amp history

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## YAMAHA THR100HD HEAD £755

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### What You Need To Know

- 1 It looks great. What is it?**  
Yamaha's new THR head is designed not as your 'third' amp to use at home, like the original THR amps, but one to take out and gig. It's actually two digital amps in one and uses VCM technology.
- 2 Er, VCM technology?**  
It stands for Virtual Circuit Modelling. Yamaha's proprietary method of dissecting, analysing and emulating analogue circuit behaviour in the digital domain. Using powerful DSP chips, VCM faithfully models analogue components – resistors, capacitors and valves, to recreate the musicality of classic guitar amps.
- 3 And what do you mean by two amps in one?**  
Dual-amp rigs are usually controlled by complex switching systems, often custom-made and tailored to a player's precise requirement. Not here, though: it's all onboard.

**Y**amaha caused quite a stir when it released the THR series of home practice combos three years ago. The 'third amp' concept resonated successfully with a lot of players who wanted something small and unobtrusive to use at home, but with no compromise on tone. Of course, more than a few players discovered that the THR's portability made it an excellent stage amp, too, and on the back of that comes Yamaha's latest creation, the all-new THR100HD head.

The THR100HD is so new that production hadn't quite officially started when we received our review sample, clearly marked 'PROTO'. It takes its design ethos from the very successful THR combos, but this time aimed at live use, with a switchable dual output stage delivering up to 100 watts RMS. Like the combos, the chassis is steel, formed into an attractive and well-proportioned design, with a friendly analogue-style control panel – no LCD displays or hidden pre-set buttons – what you see is what you use.

Inside, however, the electronics look more like a computer than a regular guitar amp, with nine PCBs connected by ribbon cables. Three main boards sit in the base of the chassis and handle power supply, output stage and preamplifier duties – the latter holding two large and very powerful-looking Yamaha DSP chips.

It's a solid design that will take any kind of abuse and live to fight another day, as well as being pleasing to look at, compact and very portable.

### Two In One

The THR100HD's design is based on the dual-amp rig concept, mirroring the kind of stage setup used by many pro players, with separate amps, speakers and pedals for clean and lead sounds. There are two completely separate amp channels, each with a separate preamp, power amp, effects loop and a booster function, best thought of as a built-in overdrive pedal in front of the main amp circuit. This concept extends to the THR100's specially designed closed-back cabinet, which holds two different loudspeakers – an Eminence Legend 1218 and an Eminence Tonker. There are rotary controls for boost level, preamp gain, master volume, bass, mid and treble, reverb, presence and channel volume. Two voice selector switches access five different amp sounds, from clean to heavy distortion. There's a toggle switch to change channels and combine them, with separate boost switches on each channel. Two input sockets lead directly to their respective channels – however, if you want to switch and combine channels, it's input 1 you need.

The rear panel features include a choice of five valve types for the two output stages, together with class A/AB emulation, switchable impedance and power levels. To make the point that the THR100HD is a 'proper' stage amp, there's also a pair of XLR line outs, with a ground lift switch. A pair of mono/stereo effects loop sockets, headphones output, DIN socket for the footswitch, and a USB socket complete the feature list.

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This being a THR, the fun doesn't stop with hardware – there's also a simple but very useful editor app that lets you pre-set three different booster types, which approximate boutique and classic overdrive effects, and change the reverb type to spring, plate, room or hall. There are series and parallel options for the effects loops and a switchable noise-gate, with three levels.

A choice of cabinet types for the loudspeaker-emulated line outs use something Yamaha calls Impulse Response data, modelling the way loudspeaker cabinets behave in real time under load. On the THR100HD, this can all be pre-set per channel. The USB socket connects the THR to your computer or DAW and records in stereo, as well as access to the editor and firmware updating functions.

Overall, we really like the way Yamaha has put usability first and done away with endless feature parameter settings, something mirrored in the THR100HD's analogue visuals, which are clean, functional and aesthetically pleasing, with a hint of Art-Deco from the ventilation slots and a warm glow from the sunset orange LEDs behind them.

### Sounds

Each channel has five voice settings, split into three overdrives simply called Crunch, Lead and Modern, and two cleans called Solid and er, Clean. The good part of it is that all five are highly usable, making it easy to do more than passable impressions of many classic Brit and USA amp sounds, if you want. Around the back, things can

1. They're simple to use and to understand, and yet these analogue controls are also the front end for a very powerful digital system

2. The footswitchable effects loop is actually two loops in one, which can be split or shared between the two amp channels, with series or parallel modes in the editor app

3. Two five-position voice switches provide access to a huge range of clean and distorted tones





## The Rivals

Reviewed by us a few months back, the **BluGuitar AMP1** (£589) is probably the THR's closest competitor, but in a more unconventional package and without the luxury of separate output stages. Nevertheless, a brilliant product that we rated highly enough for a Gold Award. Hughes & Kettner's **Switchblade TSC Head** (£1,299) isn't strictly a digital modelling amp, but combines analogue solid-state and digital effects with a very slick digital control interface, and typically great H&K tone. If you want to experience similar digital tonal finesse to the THR100HD, you need to look at high-end modelling preamps such as Fractal Audio's **Axe-II**, which sells for around \$2,500 direct, or Kemper's **Profiling amp**, around £1,199



The sounds respond very dynamically, and are rich in expressive nuance

be further tweaked by altering the virtual output valves and selecting Class A or Class AB operating mode, as well as setting the output wattage. The master volume controls on the front panel form part of the VCM (Virtual Circuit Modelling) environment, and add more output stage drive when cranked, hence the need for separate volume controls that make the whole sound louder or quieter without affecting other parameters. The important thing about all these sounds is the way they respond – they're very dynamic and rich in expressive nuance. Add the THR100HD's virtual stompbox circuits into the mix, and you can hopefully see how it's possible to do a lot with just a few building blocks.

The Solid voice is a flat response, probably intended to work with outboard pedals, while the Clean voice captures classic

cleans, inspired mostly by 'blackface'-era Fender, we'd guess, with sweet, sparkling treble, rich midrange warmth and tight bass. Use this one with the booster, and you're already covering most two-channel amps capabilities.

The Lead and Modern overdrives are superb. These two handle classic 80s rock through to contemporary metal; with a deft twist of the mid, they're all that's needed for a vicious scoop sound. Our preference is for the Crunch channel as the starting point, creating a brilliant touch-sensitive tone that growls when we dig in and cleans up as we back off on the pick attack, using the OCD Booster model to kick things up a gear for soloing.

The effects loop is clever, acting as a shared loop for both amp channels with mono plugs, or split into two separate loops



4. The dual balanced line outs use Impulse Response data for accurate speaker emulation, and there's a ground lift

5. The Booster control works on any voice, with three booster types in the editor app, and footswitchable convenience

6. The virtual valve switches allow selection of EL34, 6L6, EL84, KT88 and 6V6 valve emulations, together with Class A or Class AB topologies



if you use TRS jack plugs, making it possible to incorporate separate pedals for both amp chains, or if you're keen, two entirely different pedalboards. The reverbs – lifted from Yamaha's SPX library – are superb, with bags of natural ambience and warmth.

The all-important response is no different to many great valve amps: Yamaha's clever digital power amp captures the interaction between valve, transformer and speaker with extraordinary accuracy, and with the special speaker cabinet, you're really hearing two amps that can be as different or similar as you like.

### Verdict

There are other modelling amps, but none that provide the same degree of realism with such ease of control at this price. Add

Impulse Response speaker simulation, fabulous reverbs, offline editing flexibility and the THR100HD's brilliant analogue interface, and it's an impressive package, with volume to spare for practically any gig. True, there are no valves, but unlike a valve amp, the THR100HD will be totally consistent, night after night, as well as being virtually noise-free, far more robust and portable to boot. But perhaps the most compelling reason for plugging into a THR100HD is a much simpler one – it's really great fun! Not once did we stop to think about what was happening inside the cream steel box, we just plugged in and had a great time playing. Isn't that what it's all about, at any level? We think the THR100HD is sensational: a must-try for any guitar player. **G**



## YAMAHA THR100HD HEAD

**PRICE:** £755

**ORIGIN:** Designed in Japan, made in China

**TYPE:** Analogue controlled digital preamp and power amp

**OUTPUT:** Max 100 watts RMS (50+50)

**VALVES:** None

**DIMENSIONS:** 415 (w) x 125 (h) x 210mm (d)

**WEIGHT (KG/LB):** 4.1/7

**CABINET:** Steel

**CHANNELS:** 2

**CONTROLS:** Voice select, gain, volume, bass mid, treble and presence, reverb and output level x2. Boost select, channel select/mix toggle switches. Power stage valve select, Class A/AB select x2. Output power and impedance select

**FOOTSWITCH:** 5-button foot controller toggles channels, combines channels, toggles boost, reverb and loop functions

**ADDITIONAL FEATURES:** Dual series/parallel effects loops, 3-stage noise gate, stereo XLR line outs with programmable Impulse Response speaker emulation and ground lift. USB socket, headphone output, offline editing software

**OPTIONS:** None

**RANGE OPTIONS:** The THR100H is a single-channel version and costs £564. The THRC122 1x12 cabinet costs £286, while the THRC212 dual mono cabinet costs £477

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# 10/10

**PROS** Lightweight, tough, editing flexibility, high-end speaker sim, dual-amp rig sounds – and it's fun!

**CONS** Dual mono speaker cabinet is hefty; the end-mounted carry handle spoils the visual symmetry