

76 EPSON EH-TW3800 → £2,000 Approx → www.epson.co.uk



Can a £2,000 projector outperform your local cinema?

Full HD with all the features

Does Epson's £2,000 TW3800 have what it takes to stand out in a crowded projector market? **Martin Pipe** thinks so...



It's fascinating to see just how quickly the AV industry moves. Less than a year and a half ago, *HCC* reviewed the EMP-TW1000 – Epson's first Full HD LCD projector. At the time, this unusually-sculpted unit was one of the most affordable 1920 x 1080 projectors on the market, at around £2,600. Now we have Epson's third-gen Full HD unit – the TW3800 – which sells for £600 less.

With starkly different looks to its predecessor, this unpretentiously-styled snowy-white slab of a projector (I can't help thinking of BT's HomeHub for some reason!) adds key features like proper 1080p24 support and an additional HDMI input (there are now two, which jostle for rear-panel space with the composite, S-video, component and PC D-Sub/VGA terminals).

Epson's C2Fine technology is inherited from the TW1000, albeit in the brand's newer D7-technology panels. With C2Fine the liquid crystals are aligned vertically instead of horizontally, which Epson reckons eliminates light leakage and delivers an improved black performance. Claimed improvements of the D7 panels include better DeepColor support (the driver is 12bit, for up to 68.7 billion colours), a superior contrast ratio and a higher aperture ratio for greater efficiency (improved brightness from the same light source).

Also inherited is 'Cinema Filter', which can accurately adjust the three primary light levels optically rather than electronically. The Cinema Filter is configured automatically when you

switch between the available 'color modes' with a dedicated button on the handset. They include 'dynamic' for lighter rooms, 'natural' and two 'theatre blacks' for darker environments – if your source is an HDMI one, there's also an x.v.Color option for improved colour depth.

Although D7 technology supports 12bit depth, the video-processing electronics that feeds it is, alas, only 10bit and doesn't take full theoretical advantage. However, among such electronics is deinterlacer/scaler technology that has been bought in from PixelWorks – and to ensure you can use this to its full potential from interlaced standard-def sources like DVD and digital TV, the HDMI inputs will accept 480i/576i feeds.

Set up and go

The 2.1x zoom lens is, like most modern projectors, equipped with a wide-range lens-shift function. Set into the top of the projector alongside source-selector and standby buttons are thumbwheels for positioning the lens vertically and horizontally so that the picture registers with the screen – a gun-sight pattern is provided to help. These are the only such adjustments here: there's no keystone correction. That's not necessarily a bad thing due to the negative effects that keystone correction (notably the electronic variety) has on performance. Without it, you're encouraged to mount the projector so that it faces the screen directly, rather than at an angle.

The zoom and focusing are not motorised, as they are on higher-end

AV/CV

Product:
Entry-level Full HD LCD projector

Positioning:
Replaces EH-TW1000, midway in overall Epson projector range

Peers:
Sony VPL-HW10;
Sanyo PLV-3000;
Panasonic PT-AE3000

PJs; these adjustments are on the lens itself. Like the one fitted to its predecessor, this is a short-throw type, designed with small rooms in mind. It's capable of throwing a 100in 16:9 picture from a distance of only 3m.

If the screen you're using is a motorised one, you will appreciate the 12V trigger output. We've seen too many projectors recently ignoring this accessory.

Setting up the TW3800 was a pleasure. The lens-shift, focus and zoom controls permitted accurate adjustment while the menu controls are legible and sensibly presented. Well, almost – for some adjustments (such as noise reduction), the menu sits gormlessly in the middle of the screen, thereby making judging their effects more difficult. However, the setup menus allow plenty of tweaks, including brightness, contrast, saturation, colour temperature, skin-tone and comprehensive gamma adjustment.

The latter lets you adjust nine points along the gamma curve, using a graphic equaliser-like arrangement or – unusually – with reference to an image 'grabbed' from the current source. The result can be stored in a customized memory. You also get the ability to adjust and store hue, saturation and brightness for the red, green, blue, cyan, magenta and yellow colour components. All great news, if you're prepared to calibrate your projector.

In use

Out of the box, the TW3800 managed to deliver a standard of performance that transcended >

**Fully-loaded:**

The TW3800 features a PC input, twin HDMI sockets and a 12V trigger among its connections

expectations (skintones, for example, looked devastatingly realistic).

What immediately hit me, though, was how bright those images were. But this came at a cost. Whining from the fan was quite noticeable, and accompanied by an occasional 'rumbling' noise – the auto-iris system in full flow. The latter also meant a frequently perceptible (but smooth) shift in black-level. The 'high-speed' iris setting didn't deliver much improvement, and so I turned it off altogether, although to be fair, Epson's auto-iris is less noticeable in operation than some I've come across.

To ramp up the black level, I set the lamp 'brightness control' to low. Bingo! The projector ran much quieter, and pictures improved. With that sorted **I carried out a basic calibration, and soon found myself grinning from ear to ear.**

From Blu-ray and hi-def broadcast sources, the TW3800 easily conveys finer picture details like trees and brickwork. Today's CGI epics, frequently the subject of demos, naturally look pristine. However, even older celluloid-derived movies like *Full Metal Jacket* (BD) fare well, as both close-ups and wider shots – especially those of the sniper battle in a war-torn Hue City (really the London docklands) demonstrate. Such resolving power extends to the movie's film grain, which is apparent throughout.

And there's more. ...*Jacket's* visual variety gives the TW3800 the chance to show off its excellent colour skills – this projector is dynamic yet accurate, and there's little to touch it at this price as far as fleshtones are concerned.

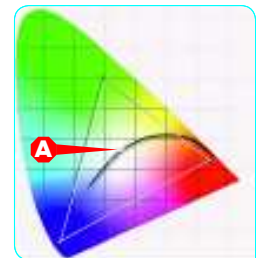
The interior shots of Hue City's burning buildings reveal that while the TW3800 can manage respectable shadow detail, other (inevitably more expensive) projectors can squeeze out more. The same applies to black levels – even though they're a significant improvement over those of the TW1000. As for standard-def, high-quality PAL DVDs are upscaled to good effect, but the roughness of digital TV is exacerbated and cannot be tamed by the TW3800's noise reduction. NTSC software (I plumped for the hilarious satire of *Thank You For Smoking*) is spoilt by some motion judder, but that's par for the course unless you're using a high-grade external scaler.

Conclusion

There are inevitable criticisms, but on the whole Epson has every right to be proud of the TW3800. If you're working to a tight budget, you'll find it difficult to beat in terms of the sheer filmic scale it allows in your viewing-room. It's quite noisy in operation, but with suitable configuration you'll all but eliminate that problem and gain better pictures into the bargain ●

→ Specifications

HD Ready: yes up to 1080p24
HDMI: yes two v1.3 HDMI
Component video: yes one inputs
PC input: yes one VGA input
Resolution: 1920 x 1080
Brightness (claimed): 1,800 ANSI lumens
Contrast ratio (claimed): 18,000:1
Dimensions: 450(w) x 136(h) x 360(d)mm
Weight: 7.3kg
Other features: 3 x LCD panels; test pattern generator; low-power lamp mode; x2.1 zoom lens with manual horizontal/vertical lens shift; 10bit video processing; 12V trigger; backlit remote; overscan; flexible adjustment memories; iris control; PixelWorks DNX scaler; digital noise reduction; 7 colour-mode presets; scaler/gamma/colour adjustments; RS232 serial port; lamp life 4,000 hours; 22dB running noise

→ Tech Labs

The TW3800 exhibited an oddly cool pre-calibration colour temperature of 4,847K (**Point A**), due to low Blue of 65% (**Point B**). Manual adjustment quickly delivered an almost perfect 6,522K

Before calibration

Colour temperature: 4847K
RGB: 117/98/65% **Luminance:** 46,356fL
Contrast ratio: 1512:1

After calibration

Colour temperature: 6,522K (user)
RGB: 100/100/100 **Luminance:** 39,393fL
Contrast ratio: 1189:1

**HCC VERDICT**

Epson EH-TW3800
 £2,000 Approx

Price check: www.techradar.com/527031

Highs: Black level, contrast and colour reproduction all good; flexibility

Lows: Fan/iris noise

Performance: 1 2 3 4 5

Design: 1 2 3 4 5

Features: 1 2 3 4 5

Overall: 1 2 3 4 5