Contents

Highlights

08 AMD should postpone Threadripper

AMD needs to address the holes in its Zen 2 line-up before it goes all out on Threadripper, argues Richard Swinburne.

10 Political protests

Tracy King analyses Blizzard's sanctioning of a Hearthstone player for protesting against the Chinese government at a tournament.

19 Intel Core i9-9900KS

Intel's new flagship LGA1151 CPU can boost to 5GHz on all cores, but is this enough to take on the latest Ryzen chips?

30 Budget NVMe SSD

We take a look at Kingston's new A2000, which gives you 1TB of PCI-E 3 NVMe storage for just £108 inc VAT.

46 Premium ATX cases

E-ATX support, tempered glass panels and excellent water-cooling support. We test several of the latest premium PC chassis.

53 Wi-Fi6gear

We look at some of the latest Wi-Fi 6 equipment, including four brand-new routers and a PCI-E adaptor.





68 Epicflaw

As Epic's Steam competitor approaches its first anniversary, Rick Lane looks back at how it's fared.

70 Borderlands 3

Mini PCs no longer have to involve compromising on performance, but you do need to make sure you get the right gear. Antony Leather shows you what you need to build a powerful 12-core gaming rig, and how to put it all together.

76 PC building masterclass

Fancy having a go at building your own PC from scratch, but don't know where to start. Our PC building primer takes you through all the stages from start to finish, so you can construct a smart PC just like the pros.

86 Nvidia Turing deep dive

Real-time ray tracing, Tensor cores and loads of stream processors. We dive deep into Nvidia's latest GPU architecture to reveal what makes it tick.

94 Hobby tech

Gareth Halfacree shows you how to make a network-attached secondary display with a Pimoroni Inky wHAT, and tries out the Fuze4 Nintendo Switch kit.

104 How to guides

Antony Leather shows you how to make your own Velcro cable ties, and fit a water-cooling monoblock to your motherboard.

109 Retro PC art

We talk to Matilda (aka Bhaal Spawn) about her retro PC gamingrelated art, including Lego models of the Sound Blaster Pro and 3dfx Voodoo cards.

112 Retro tech: The PC speaker

With its chirruping bleeps, the PC's first sound system was highly primitive. We take a look at how it works, and how early game developers managed to make it sound half-decent.

Cover guide

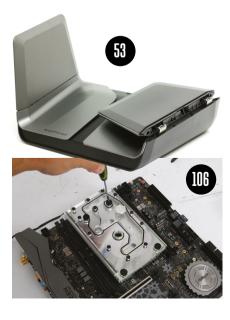






Regulars

- 3 From the editor
- 8 Richard Swinburne
- 10 Tracy King
- 12 Incoming
- 14 Letters
- 34 For the win
- 42 Custom kit
- 60 How we test
- 62 Elite products
- 68 Inverse look
- 74 Reality check
- 94 Hobby tech
- 99 Readers' drives
- 102 Customised PC
- 104 How to guides
- 109 Retrotech
- 114 James Gorbold



Reviewed this month



Reviews

PROCESSOR

- 16 AMD Ryzen 73800X
- 19 Intel Core i9-9900KS

CASES

- 22 Corsair iCUE 465X RGB
- 24 be quiet! Pure Base 500

CPU COOLER

26 ARCTIC Liquid Freezer II 240

SOLID STATE DRIVE

30 Kingston A2000 1TB

MONITOR

32 Asus ROG Strix XG438Q

LAPTOP

36 Razer Blade 15

PC SYSTEMS

- 38 Stormforce Crystal RTX 2080 Super
- 40 Wired2Fire Predator

Custom kit

- 42 Hamswan VR Headset
- 42 Klim Comfort Laptop Cooling Pad
- 42 Roccat Sense AIMO
- 43 Stageek Mouse Jiggler
- 43 Sound Blaster X3 USB DAC

Mini-ITX case Labs

- 47 Cooler Master SL 600 M
- 48 Corsair Carbide Series 678C
- 49 Fractal Design Vector RS
- 50 Lian Li PC-O11 Dynamic Razer Edition
- 51 NZXTH700i
- 52 Phanteks Enthoo Lux 2

Wi-Fi 6 Labs

- 4 Asus AiMesh AX6100
- 55 Asus RT-AX88U
- 56 Netgear Nighthawk AX8
- 57 TP-Link Archer AX6000
- 58 TP-Link Archer TX3000E

Games

- **69** Greedfall
- **70** Borderlands 3
- 72 Blasphemous
- 73 Untitled Goose Game
- 74 Star Wars: Vader Immortal Episode II

Hobby Tech

- 96 Fuze4 Nintendo Switch
- 98 The Secret History of Mac Gaming