



Pictures from the edge



TCL 55C2US

UHD television

Android smarts, UHD panel, built-in soundbar — there's a lot to like about TCL's EISA-winning midrange C2 Series.

SUMMARY

TCL 55C2US

Price: \$1599

- + Great UHD TV for the price
- + Useful built-in soundbar
- + Android/Chromecast smarts
- Blacks limited by technology
- Audio issues on our sample

TCL is most definitely one to watch in the TV market. Despite perhaps a relatively low profile after more than 10 years in Australia, it is no underdog — TCL has held the number three position in global TV market share since 2013, keeping Sony and more recently Hisense in fourth place, with only Samsung and LG outselling it. Examples of TCL's large-scale investment in the future of TV include its co-ownership (with Samsung Display) of CSOT (Shenzhen China Star Optoelectronics Technology Co.) which is making a massive investment of almost US\$8bn in a new 11th-gen display manufacturing line, and on the software side a fascinating TCL R&D project to bring artificial intelligence to TVs with 'AIXperience', aiming to give TVs deep learning abilities through a TV-based neuro-network. TCL is one of only two companies besides LG.Display to hint they might go into OLED production of large-screen displays, again through CSOT. If the world turns as many expect, TCL and Hisense look next in line to inherit the baton of TV leadership as it passes again, from Japan to South Korea and now inexorably on to China, where domestic consumption of UHD screens has been the biggest driver of 4K adoption (perhaps 40% of all the UHD TVs ever made have been sold in China).

Equipment

So that's all for the future; for now TCL's 2017 range for Australia continues to be led by 'QUHD' as its buzz technology. The UHD part of this indicates, of course, full 3840 × 2160 resolution, while the Q refers to the use of quantum dots in the LED backlight (edge lighting in this case), its frequencies tuned (by mysterious nanocrystals) to more specific frequencies than produced by normal broadband LED backlights. The chosen frequencies address the specific sensitivity peaks of our eyes, with the result that this 'tuned' light works more efficiently, delivering higher perceived brightness and greater control of colour.

That quantum dot tech is used in TCL's top X2 range, though not in the second tier C2 series reviewed here, despite this TV and others retaining the QUHD tag for marketing purposes. The X Series is also slightly thinner than this C2, sports a different finish and has a larger version of the built-in Harman-Kardon sound system. Otherwise both series offer HDR Pro for UHD signals with High Dynamic Range, and both allow for that wider colour gamut.

And increasingly usefully, both series are Android TVs, running Android TV 6.0 (Marshmallow) in order to deliver a vast wealth of apps for direct access from the TV's menus. The nicely designed remote control got around these nippily enough — we didn't



Android TV & smart stuff

Android TV is an increasingly attractive option as a smart TV interface, not only easy and clear, but bringing your TV into the rapidly expanding Chromecast ecosystem. You can throw video or audio from Android devices easily, from Chromecast-enabled apps on iOS devices, from a Chrome browser on computer, or as mentioned, using a Google Home.

As with the Sony TV in this issue, TCL has pre-populated the home screen with obvious candidates such as Netflix, YouTube, Spotify and Yupp TV, which offers primarily Indian subcontinent programming, while the Google Play store offers endless others; we downloaded Stan (above) and a few media players to try — VLC, Archos and Plex.

Twin Peaks from Stan looked absolutely stunning streaming direct to the TCL, though the information key doesn't work in this mode, so there's no way to check exactly what was coming through.

TCL's C2 Series is enabled for voice search — and YouTube seems to expect it, but the voice remote control is only optional (it's standard on the X series), so we found YouTube most easily browsed using a laptop and throwing it to the TCL — YouTube then takes over the stream direct from the internet, with control available from computer or TV remote.

much miss having a wavy remote, and you could always pay for the voice remote available. Besides, with a Google Home in residence, we could have fun with it that way. It has Chromecast video built in, so we could say 'Hey Google, play YouTube Pink Floyd' and the TCL would switch to its own YouTube app and play a dodgy upload of part one of *The Wall*. Brilliant.

The C2 Series is available in four sizes — 49 and 55-inches (\$1199 and \$1599), plus 65-inch (\$2599) and a huge 75-incher up at \$4299. All come with a useful three-year warranty.

Performance

This is an attractive 55-incher, its steel bezel a mere 5mm wide, with just a few millimetres of panel black between image and bezel. It's slim, too, and at 18kg the TV is easy enough to manipulate onto its two-part stand (keep the longer legs to the front), which leave it requiring just 25cm of bench depth. The TV then begins a mere 3cm above its supporting surface, with the integral soundbar taking up the next 6cm; the picture edge is 9cm up.

Otherwise the C2 is wall-mount friendly, with standard 200×200 VESA mounting holes and no protruding rear connections. While the

The Android home screen also points towards TCL's own international offering of GoLiveTV, which brings together a wealth of foreign-language content — Chinese, Hindi, Taiwan and more, and just a little English in there too from our browsing, including Deutsche-Weller International. There are many packages or on-demand TV shows and movies, again it seems Chinese dominated; an 'Australia Special Plan' section includes \$3.99 for movies, or 0.99c per movie, and \$3.99 monthly for TV — some first episodes are free, so we could confirm that the Chinese shows have English subtitles.

Netflix has a dedicated button on the remote, as does 'T' — though this latter seems to be more a repository for your past viewing than access to new stuff. When we asked 'T' for sport, it just took us to YouTube, and when we tried to go back up the menus, it left us at the YouTube Home Menu (though since we were logged in with our gmail account, this recommended us a marvellous documentary on Monty Python, which was awful in resolution but wonderfully distracting nevertheless).

There is Freeview Plus catch-up when you're using the TCL's own tuners, and it can even record if you give it capacious USB storage, though its single tuner makes recording operations limited.

panel is just 11mm slim at the top, it's about 55mm at its thickest point, the base behind the soundbar.

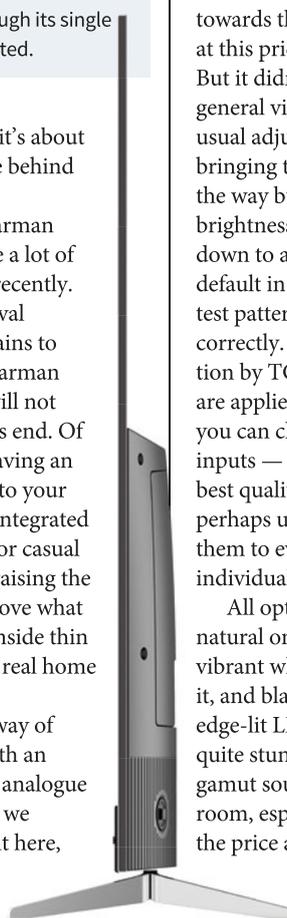
That soundbar is branded to Harman Kardon, which seems to have made a lot of friends among TV manufacturers recently. Whether this will wane now that rival Samsung has bought Harman remains to be seen, though we gather (from Harman Australia) it is a relationship that will not be dropped from Harman Kardon's end. Of course, we're always in favour of having an even larger sound system attached to your entertainment area, but the nicely integrated bar here certainly performed well for casual TV viewing, going quite loud and raising the audio performance significantly above what is usually achieved from speakers inside thin TVs, if still distant from the joys of real home cinema depth and dynamics.

For those wanting more in the way of bass and dynamic range, there's both an optical digital output and minijack analogue headphone output available. These we cannot judge, as our unit had a fault here, with the digital output exhibiting severe clipping distortion. TCL

knew about the issues when we called them, promising a firmware correction to come, but it didn't get through in time for us to check if things have since been rectified. (One time when we hovered over the 'Version' number in settings, a pop-up appeared in Chinese and something updated and installed without requesting confirmation, yet the Version and Android Security patch level remained the same.)

That thicker lower half indicates the bottom edge-lighting used here. We've seen lesser TVs with this technology create wide vertical striping on high contrast scenes, but the C2 seemed impressively immune to this. Several dimming options are offered under settings, some of them rather aggressively pumping the image, so that these were best kept off or low. Nighttime viewing of near-black screens showed clear greying out towards the corners, as to be expected at this price and with edge lighting. But it didn't interfere much with general viewing once we'd made our usual adjustments, which included bringing the Sharpness down not all the way but to around 22, and for brightness taking the Backlight way down to about a third of its high default in order to get our contrast test patterns showing all their detail correctly. In an excellent implementation by TCL your preferred settings are applied only to a single input, but you can choose to copy them to all inputs — so you can set them for your best quality source, probably Blu-ray, perhaps using test patterns, then copy them to everything and tweak them individually for other inputs.

All optimised, the colours were natural on TV content, strong and vibrant when the material demanded it, and blacks impressive for an edge-lit LED-LCD design; it could be quite stunning with HDR wide colour gamut source material in a low-lit room, especially when you consider the price and how far this goes towards the performance of premium models.





The colours remained strong and consistent within about 30 degrees off the centre position but thereafter quickly washed out (as usual the specifications note 178 degrees for off-axis viewing — well, yes, you can still see the picture at such extreme angles, but you won't enjoy it much unless you like your skintones to be pinky-grey).

As a 4K panel it certainly made the most of the UHD Blu-ray of *Batman v Superman* playing from Panasonic's entry-level UHD Blu-ray player, and the TCL handled the darkness of many of its scenes well, not the very inkiest of blacks but maintaining shadow details well for its price level and technology. And we found its performance with upscaled Blu-rays excellent; a remaster of *The Dirty Dozen* looked truly filmlike. There seem no setting variations for frame interpolation on this TV, other than choosing Video versus Gaming, but whatever its chosen mode, it neither annoyed us with judder nor over-glossed the filmic quality of classic movies into soap opera smoothness.

Settings and power

There are additional settings accessed not from the remote's Settings button but from the very bottom of the Android home screen. Under a Power submenu there is the very useful 'Instant power on' option, without which the TCL takes about a minute to chug through its Android start-up, and that can be one minute too long if you're rushing in to catch tennis/rugby/*Home&Away!* 'Instant power on' cuts that wait to four seconds. Why would you *not* use that? Perhaps because this higher level of standby pulls 10 or 11 watts power, instead of something under 0.5W with which it trickles by in the deeper off state. That might look bad to anyone measuring the TV's energy use, but in fact it's temporary — we kept watching, and after only a few minutes it dropped back down to exactly the same low power demand as the deeper standby, yet could still wake up in four seconds. So there seems no reason not to engage 'Instant Power On'.

Turning off, mind you, wasn't always easy — sometimes the TCL powered down immediately, sometimes it presented a 'Power off' message which required a second press, and sometimes we'd find it still on in the morning with the wife saying it wouldn't turn off at all. A firmware update may fix this, and TCL does promise one (see above).

Also under these hidden settings menus is Time & Date, which will set automatically if you've connected your antenna and tuned your channels, though if you're only using direct inputs you'll need to set timezone. Our early unit thought Sydney was UTC+11, with no apparent summer time option, so we had to pretend we were in Brisbane to get the correct UTC+10. Once we'd tuned to local stations, all that was handled automatically.

Power usage when in use, correctly adjusted and playing the Sony Japanese garden test video with no audio, was around 48W, though networking uses could pull more — 65W when playing Spotify Connect, even with its screen off.

One final note, though irrelevant to most users — this was the easiest TV we can recall to repack. Thank you TCL!

Conclusion

The TCL C2 55-incher demonstrates the quality to which today's mid-priced UHD televisions have risen. This is a level below TCL's top models with actual QUHD, yet here you benefit from excellent basic UHD performance including High Dynamic Range, sensible menus, and the big bonus that Android TV brings in terms of additional content and easy connectivity, including with Google Home and other Chromecast products. It performs above its price as an excellent midrange model, and we entirely concur with EISA's award here as its 'Best Buy' TV (see page 21). Richly deserved. — Jez Ford

SPECS

TCL 55C2US

\$1599

Firmware when tested: 6.0.1/MUE34

Display technology: edge-lit LED-LCD

Screen size: 138.8cm (55-inch)

Native resolution: 3840 x 2160

Aspect ratio: 16:9

Quoted contrast ratio: 4000:1

Brightness: 300 ANSI Lumens

Connectivity: 3 x HDMI (one MHL, one ARC), composite AV, 1 x USB 2.0, 1 x USB 3.0, Bluetooth, Ethernet, Wi-Fi, built-in Chromecast

Dimensions (whd): 1232 x 790 x 242.5 (with stand); 1232 x 751 x 58mm (without stand)

Weight: 18.5kg

Warranty: Three years

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