

BenQ GS1

portable 720p projector

Campfire movies

Forget the old sing-song round the campfire, with the GS1 you can upgrade to bigscreen movie entertainment...

SUMMARY

BenQ GS1

Price: \$999

- + Light weight
- + Decent picture from tiny device
- + Supports DLNA and AirPlay
- Poor 576i/50 deinterlacing

Well, that's quite the change. The last two BenQ projectors we've reviewed have been massive Ultra HD home cinema designs. The BenQ GS1? It's barely larger than my hand, and so portable it even has its own rechargeable battery. Outdoor fun as the summer approaches? Let's do it.

Equipment

First, this is a 720p projector — its resolution is 1280 by 720 pixels. It uses an Osram Q8 LED as the light source, and DLP technology to generate the picture. And it has a fixed focal length, with no zoom, and a maximum brightness of 300 ANSI lumens. I include that last spec because it has an impact on picture size. BenQ talks about a 60-inch picture size from a range of one metre, which is probably about right, although you can stretch it a little more if you like, especially if power is plugged in. But really, any projector can project to pretty much any picture size it can keep focused. What limits things is how bright you need it.

BenQ also specifies a contrast ratio of 100,000:1. There's no lens shift or zoom or anything like that, just the focus control. Which makes sense. You're never going to install this projector somewhere, so to make the picture bigger, just pull the projector further away from the screen. There is keystone correction in case some angle is unavoidable, but I'd strongly recommend that you find a way to get

the projector in the right position instead. Keystone adjustments waste pixels, and with 720p you don't have too many to waste.

The lamp, being LED, has a long life. It's rated at 20,000 hours running at maximum power, and longer in Eco mode.

There is one HDMI input. This supports MHL, which makes sense in view of the portable nature, so you can plug the rare MHL-supporting phone into it for playback. There are also two USB sockets (one of them USB 3.0) and one microSD card slot.

There are two more elements of connectivity: Wi-Fi and Bluetooth. The latter is for connecting an external speaker, or there's a 3.5mm socket for audio out. There are two small speakers built in, each with 2W of power available, so an external speaker is a better way to go.

You don't need to use the battery pack, but if you do, it just clips in place and is charged via the projector. This also has a USB socket which can charge other devices, like the phone that's playing. The lithium-ion polymer battery has a capacity of 16000mAh, around five times that of a typical Android phone. BenQ says that the pack is good for 300 charge cycles, taking around 3.5 hours to fully charge from empty, and will run the projector for three hours at 150 ANSI lumens.

There's a bright orange rubber bumper that wraps around the whole thing to give it some protection. BenQ envisages it being used outdoors, on holidays and such. The whole thing is mildly splash-proof — 'IPX1 drip proof' says BenQ, so don't leave it out in the rain.

It comes with a neat carry case, with room for all the bits, and with a slim BenQ style remote control with the usual keys, plus volume and a surprising 'Home'.

Performance

The first surprise here was that the the set-up menu was clear and easily viewable even though I had my room lights on. I'd kind of expected that the picture might be very dim.

Second, the guided five-step set-up included connecting to my Wi-Fi network. Why? Because this is a projector attached to an Android device — a skinned one to hide some elements of Android, but nonetheless Android (version 4.4). The Wi-Fi is single 2.4GHz band 802.11b/g/n compatible. The Android side of things is powered by a four-core CPU. There's 8GB of storage, of which a bit over 4GB is available to use for apps and content.

And sure enough, once I'd finished the set-up, the projector displayed a home screen based on Android. Which explains the Home key on the remote. It has been customised and cut down — no access to the Google Play store, instead you can get more streaming apps and games and productivity tools from the BenQ App Market. There was a range of unusual things, though none of our local TV catch-up services, no Netflix nor Stan. There is YouTube (implemented via the web browser). The front page has something called 'BenQ Smart', which displayed a QR code to send my phone to the Play store for the BenQ Smart Controller app (Android only). This was a quite competent network-based remote controller with both normal arrow and number buttons and a touch-pad for moving an on-screen cursor.

The projector's own remote was a little trickier, requiring the angle to be just so. In the end, I plugged the dongle from a USB keyboard and mouse into the projector, and used them to control it. They worked very nicely. The browser worked very well; web

pages snapped up quickly.

Finally, and the best part of this projector's smarts: it runs an app called AirPin(PRO). This allows the projector to be a device which you can cast stuff to. It worked with DLNA — receiving video and photos from my server using an app. I could cast the screen of an Oppo A77 smartphone to it, but not my Samsung Galaxy S7. My Samsung Galaxy Tab 3 would display its content to the projector, but not mirror its screen.

And equally usefully it worked perfectly accepting the mirrored screen of an iPad mini 4, sent via AirPlay.

As a projector it made a colourful and usable bright picture up to at least 70 inches when viewed in a dark room. There was a very slight bow in the picture, with the middle being a touch higher than the edges, but not so much as to be distracting.

The black levels were naturally very good, in part because the picture is less bright than usual. Reds were a touch stronger than natural but could be tamed via the controls. There are several picture modes, including one for use under star light, and one for use when there's a camp fire!

Content up to 1080p was accepted, and down to 480i/60 and 576i/50 was accepted. The scaling from 1080p/24 down to 720p was quite smooth; indeed, the whole picture was smooth, with very little screen-door effect.

Deinterlacing of 576i/50 was pretty mediocre. It had bit of an attempt at detecting film versus video-sourced, but plumped heavily for the latter though occasionally it got confused and actually created brief

flashes of combing on film-sourced content. Performance was about the same with 1080i/50, but without combing. Ideally use a source good for high-quality progressive-scan conversion. But it was clear that the projector was displaying at 60 frames per second and not 50, as evidenced by judder.

I ran it on battery to see how it would hold out. Rather well, though it drops the output to perhaps half brightness (although the subjective reduction is not as great) when switching over. At that level I got a good three-and-a-half hours before the projector gave up and switched itself off.

One final note. This is an Android device. For normal use turn the volume control down to zero, or go into the settings and switch off sounds for notifications. There were a couple of occasions when I jumped as the projector decided to alert me to something!

Conclusion

If you want a projector for real home cinema, this is not it. But if you want to get a picture the size of a large TV in a small portable package — and yes, for holidays and camp fires! — the total weight here, including battery, is under a kilogram. Surely you need look no further. — *Stephen Dawson*

SPECS

BenQ GS1

\$999

Firmware when tested: v1.2.1.6_ww

Projection technology: 1 x Digital Micromirror Device (size not stated)

Resolution: 1280 by 720 pixels

Aspect ratio: 16:9

Lamp: OSRAM Q8 LED

Lamp life: 20,000/30,000 hours

Contrast ratio: 100,000:1

Brightness: 300 ANSI Lumens

Inputs: 1 x HDMI (with MHL), Bluetooth, WiFi

Other: 1 x USB 2.0, 1 x USB 3.0, 1 x microSD

Dimensions with battery (whd): 146 x 66 x 140mm

Weight: 970g

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