

## BRISTOL PHOTOGRAPHIC SOCIETY – THE ROCKY ROAD TO HYBRID ZOOM MEETINGS

Words and images kindly supplied by Pete Howell, President.



*The Bristol Photographic Society's clubrooms*

Lockdowns were easing, the 'R' number was getting lower and camera clubs across the land were beginning to talk about meeting again at their respective clubrooms. BPS was no exception to this, and all talk was now turning to when and how. Looking at the web, and in particular the UK Club Photography Facebook page, it seemed that the consensus was that meetings would have to be some sort of hybrid, with them being held at the clubrooms for those members brave enough to venture into enclosed spaces and at the same time being beamed out across Zoom to home based members.

So, we decided that we'd go for it.

### **What were we looking for?**

A method of sharing meetings between those attending the clubrooms for the meeting and those either not able to, or not willing to mix socially just yet. We decided that whatever we installed needed to be of sufficient quality to allow us, once things return to some sense of normality, to Zoom out some of our more prestigious meetings to a wider audience – who knows, they might even be willing to pay! It would also mean that we would be able to take advantage of that new-found freedom that Zoom has created, and that is to be able to have some speakers from much further afield, we have already had speakers from USA and France and have another scheduled in the New Year from Australia.

In addition, as we let the clubrooms to Bristol Astronomical Society for their weekly meetings, the system would need to be fairly robust and easy to use and be "ready to go" without there having to be a lengthy set up process before a meeting can start.

We decided that there are four types of meeting that we needed to cater for:

- The speaker gives the talk over Zoom from home. This is easy, as it is run in the same way that Zoom was previously run, with one difference – as well as being Zoomed to the home-based audience as the new normal, it's viewed in the clubrooms, being put through the projector for the assembled masses.
- The speaker gives the talk live in the clubrooms as a PDI presentation, using the club PC to send the images both through the club projector and to the home-based audience.
- As above, but with the speaker bringing the presentation on his/her own laptop. We have tried to persuade speakers to use our system, partly as we are set up to work that way, and partly because all the kit is profiled together, so colours should always be right, not something we can guarantee if they are pairing their laptop with our equipment.
- The speaker gives the talk live in the clubrooms as a print presentation. Prints would need to be viewed live by those in the clubroom and as digitally presented images by those at home.

What we then had to look at was what methods were available to us to enable these different types of meetings. A quick trawl around showed that other clubs had tried various solutions:

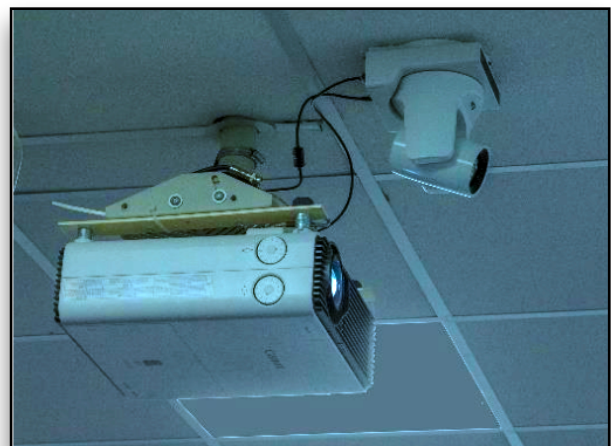
1. Limiting evenings to PDIs only + PDIs of prints (submitted with print entry).
2. Using a Video camera to live stream the evening.
3. Use a DSLR hooked up through the PC/laptop and using Live View or similar.
4. Use a CCTV camera linked to the PC/laptop.

Our conclusions, after looking at these four options:

1. The big problem with this option is that it means we cannot invite speakers to give print talks, as we could hardly expect them to bring along the talk in two versions, one as proper prints and the other as PDI copies. That means the only print evenings we would be able to show would be internal print competition nights where members would be required to submit a PDI along with their print.
2. We had heard that clubs trying this method had run into bandwidth problems, with the picture or sound often freezing.
3. We did try this, but our setup is one where the projector is ceiling mounted (3.5m up) and we have always tried to keep the floor of the room clear to allow general movement for members before and after the meeting and during the interval. We felt that whatever we used needed to be a permanent installation that could be operated remotely either by means of a remote control or the PC/Laptop and didn't have cables lying about the room. Trials showed that it would have taken up a fair amount of space in the middle of the room, with a lot of loose cables - not recommended with members milling around during the break.
4. This became the preferred route. We had recently upgraded the system we use to display prints during talks. Basically, we have a 4K CCTV camera mounted on the ceiling which is linked to two wall-mounted 55" monitors, this is used to show the prints in real time, but much larger than the real thing. This has replaced a much older, second-hand

CCTV camera and monitor setup which was installed when we moved into the clubrooms in 2016.

Decisions made, we now embarked on what would prove to be a long and rocky road to the final solution. We were told that the old, now redundant, CCTV camera would be suitable for our needs as it was good quality and high spec, so we decided to mount the old camera at high level, towards the back of the room, and zoom it in (do you remember the old meaning of the word zoom?) to capture a 50cm x 50cm square, this should cover either landscape or portrait prints – so far so good. Next, we needed some sound, for this we reckoned we could continue to use the Sennheiser headset wireless microphone we used for normal meetings, so this was fed to the PC via a simple 4 channel mixer and Computer Audio Interface, which converted the sound to something that Zoom understood.



*Two views of the ceiling mounted projector and 4K CCTV camera*

Initial tests all proved satisfactory, and we went away satisfied and confident that BPS members would be in for a treat - how wrong we were! The first evening went reasonably well as it was a projected image meeting with the PC doing all the Zoom work and sending out good quality images. However, the problem we encountered was with the sound: members complained that it was poor quality and was difficult to hear. Baffled, we pressed on to the next week, having put new batteries in the wireless transmitter, but the cries from the assembled home-based masses became clearer and louder whilst the Zoom sound became less clear and quieter. Undaunted, we moved to the next chapter in this saga, a print evening, surely this had to go well – did it, heck!

The sound was still poor, and the picture quality was, not to put too fine a point on it, lousy, and members weren't backwards in coming forward to let us know about that either!

Something had to be done, or our guts were going to make someone a fine pair of garters, and we weren't up for that! This dissatisfaction and frustration spilled over to the members, and we began to receive messages during meetings, some of these are reproduced below:

- *Why oh why can't we get presentations right*
- *Sound is distorted and unbearable*
- *What we are seeing is awful*

Thus, we got in touch with the company that had installed the CCTV camera and monitors and asked them to see if they could come up with a solution. The upshot of this was that Matt, our Zoom guru, suggested to the installers that they piggy backed off the connections from the 4K CCTV camera to the monitors and feed this through a video capture card to the PC.



*The print display wall at the front of the clubroom with the print repeated on the two wall mounted screens.*

That was the picture hopefully sorted, now for the sound: we purchased a 12 channel mixer (we don't need all channels, but it leaves room for expansion) and a new headset mic plus a wireless handheld mic. This latter mic will allow the Chairman to introduce the meeting without ripping the headset mic from the speaker, it would also allow for audience participation such as questions from the floor.



*The 12 channel mixer unit*

We had realised quite early on in this sorry saga that we had done all our testing using laptops, which hadn't really reproduced the poor sound, and even more importantly, hadn't been able to show just how bad the print images were. This latter problem was something quite a few members could see as they were using large, high-end monitors. This had led to cries for my head, and much more sadly, for the head of Matt, who was getting very close to calling the Samaritans.

After spending Sunday morning with our installers, who seemed to spend the entire time with their heads stuck up in the ceiling, throwing what seemed like several kilometres of cable around the place and some pretty fraught moments where we couldn't get the sound quite right, we were finally ready to "go live" with a test session to several of the chief critics of the original system. Phone calls were made, and logins completed – fingers crossed, we started the test and mercifully everything seemed to go well: the picture was good, the sound was good and much more importantly the reaction of the invited few was good – **WE HAD APPROVAL**. The next test was the biggie, how would the general membership receive it?



*Members milling around before the meeting started, also showing one of the members at home on Zoom on the main projection screen.*



*Matt at the "command module"*



*The speaker in full flow at the beginning of his talk.*

Well, the day (or should I say evening) had finally arrived, would all that hard work be worth it? Matt had switched everything on, and a large number of members had braved the elements and all those nasty germs, to turn up at the clubrooms – at long last it felt quite like old times. A large but motley crew had also joined us on screen to watch the proceedings on the new improved Zoom. The clock turned 7.30pm and the Zoom team waited with eager anticipation to see if any of the home members' facial expressions would give anything away about the quality of what they were now seeing and more to the point, hearing.



*Ralph giving the vote of thanks using the new hand-held mic.*

Chairman Ralph took centre stage and, using the new handheld mic, opened the meeting by stating the obvious, that we now had a decent sound and vision system and he asked that gratitude be shown to Pete Howell & Matt de-Beger for all their efforts in getting everything working perfectly. He then announced the speaker, who, used the new headset mic, enabling him to give a presentation that everyone could hear clearly. Matt also used the CCTV camera, trained on our illustrious leader, to show members at home the face that went with the previously disembodied voice. All in all, a great success, it had all been worthwhile after all.

So, what did all this suffering and angst cost this small band of masochists?

What started out as something that should have cost no more than a hundred quid, has finished up with BPS being nearly £1,700 poorer, but hopefully much richer in the knowledge that we have a system that will last for a good time to come. Oh, and its cost me a lot more grey/silver hairs!

More importantly, the messages coming through from the same commenters as previously quoted were typically:

- *Sound at last, well done*
- *Brilliant picture as well*
- *Excellent job guys, well done*

Well, that was it, we had the seal of approval, now we could adjourn to the pub to celebrate a great evening, rather than to lick our wounds!

We appreciate that this route isn't for a lot of clubs, as we have the benefit of owning our own premises, so we can make changes as we see fit (and don't have to pack everything away after each meeting) and we are equally fortunate in having the reserves that allowed us to complete this project.

*Pete Howell President of Bristol Photographic Society.  
For the WCPF Publicity areas on the website and the closed group Facebook area.*