

# Sharing our stories and equipment for blended worship

Update 16 February 2024



Quaker Life asked Friends if we could gather the experience of meetings preparing for and starting blended meetings for worship – where people join online and in person for a single meeting for worship. Here are stories from eleven meetings, and some of their equipment lists, in the hope they may help others. Each situation will be different, depending on the building, the meeting, the aims and the budget. Here they are roughly in order of cost, though it depends what you already have or is loaned/donated.

You may also find it helpful to read '[Thoughts on blended worship](#)' which has advice and observations gathered from discussions with Quaker meetings about setting up for blended worship.

If you have a story or insight to add or would like to update the information that we have, do take a look at [this explanation](#) and send your contributions to [supportmeetings@quaker.org.uk](mailto:supportmeetings@quaker.org.uk).

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# Stories from 2021 and 2022

## Bradford on Avon local meeting

### About our meeting

We are in a small town in Wiltshire, with Friends also attending from surrounding villages and from Bath. There are two meetings for worship every week: Sundays at 10.30-11.30 (average pre-lockdown attendance around 30 adults and 5 children) and Wednesdays at 20.00-20.30 (average pre-lockdown attendance 2-3).

### Online worship

We started Zoom meetings for worship on Sundays 10.30-11.30 at the end of March. Attendance varied from about 20-30 adults, with the children making occasional appearances. One of the regular Zoom attenders joins us from Cambridge. An additional Zoom Meeting on Wednesdays 20.00-20.30 was started on 22 July, coinciding with the beginning of blended worship.

### Blended meetings for worship

The first blended Meeting was held on Wednesday evening 22 July, 20.00-20.30. We had 2 Friends attending in the Meeting House and a couple joining over Zoom. We expect attendance on Sundays to be averaging 6-8 in the Meeting House and 15-25 over Zoom.

Our Meeting House is fairly small, with the main meeting room seating about 40-45 maximum pre-lockdown - now down to 8 with 2m distancing. The adjacent library has space for another 4 people with 2m distancing.

Having lost all our room hire income for several months, and with a Resident Warden still on part-furlough, our criteria for blended worship kit was for it to be as cheap and as simple as possible, in line with the words on a placard in the Warden's flat: "Keep life simple".

### Equipment

- **Laptop:** 13" Macbook from 2010, bought as refurbished second-hand kit in 2015 for £250 to replace the previous work laptop for our Warden
- **Microphone:** Zoom H2n digital sound recorder, privately owned by the Warden who bought it for £170 back in 2011/12.

The laptop is placed on a folding table in one of the corners of the main meeting room, with the sound recorder (on a table tripod) being plugged into it via USB, using the audio interface function - which essentially turns it into a good quality USB microphone that picks up sound from around the room.

### First impressions

This entirely cost-free set-up (as the kit was already there anyway) works remarkably well. With the internal laptop speakers turned on maximum, the sound from Zoom participants is adequately transmitted to the meeting room, and the sound recorder successfully transmits the sound in the other direction (from meeting room to Zoom participants), even with the Friends worshipping in person speaking from a great distance and at differing angles to the microphone.

On the downside, the webcam only covers 5 of the 7 chairs set out in the meeting room, and the small laptop screen makes it very hard to see who's there on Zoom (although Friends with good enough eyesight may just about manage to see who's speaking, when using Zoom's speaker view).

**Suggestions for improvement**

The visibility of Friends on Zoom could be improved by hooking up a decent-sized monitor or TV to the laptop.

# High Wycombe local meeting

## About our meeting

High Wycombe meeting is part of the Chiltern Area. We regularly had 12-20 at our Meetings, but the numbers have increased for online worship – probably averaging around 25.

## Online worship

We've used Zoom since April, basic paid subscription. There were some teething troubles, but it's worked pretty well. Everyone that wants to use it has managed to do so. We have reduced meeting time down to 45 minutes, then have a time to catch up with each other. Sessions are led by an Elder, but this comprises no more than starting us off and ending. Because people are polite there hasn't been a big problem with having to manage the informal discussion, though because some have had very little social contact they have embraced the opportunity to talk. Interestingly people don't use the electronic hand gestures.

Some had problems logging on initially, but these have been resolved. I send out a group email every Saturday. We don't use passwords but always enable waiting room. People do keep attending in their numbers, but many say they miss personal contact.

## Blended meetings for worship

As lockdown has eased some were keen to return to a physical meeting, but it was also clear from others, particularly the more vulnerable, that they would not be comfortable in returning, but wanted to continue with Zoom. We therefore decided to attempt to set up the meeting house for a blended meeting.

(Area Meeting asked us to complete a plan for a retuning to the meeting house, indicating the measures we would be putting in place re hygiene, social distancing etc. This we did and we are planning to hold our first blended meeting on 2nd August).

## Equipment

Three of us exchanged ideas about how this might work and, with the help of a non - Quaker 'expert' we decided that we'd set up the meeting house for blended worship using, if we could, bits of kit that we could put together ourselves, i.e. without, at this stage, incurring any cost. We tested out a Logitech webcam (which has a built-in microphone) and this seemed to work well. We tried a 'dummy run' at the meeting house. The kit was as follow:

- **Webcam** Logitek 1080p – see also below for another option
- **Laptops** 2
- **Tripod** on a table
- **Speakers** 2
- **Leads**

The dummy run was partially successful, Video quality was excellent, sound quality less so, though we feel we can rectify this with reasonable quality speakers.

We discussed having 2 cameras, and possibly a separate central mic, but felt that we wanted to keep things as simple as possible at this stage. We felt that the most important thing was sound quality and we are still struggling a little with this – though we do feel that

the Logitech **webcam** will do the job. (The latest is the C922 Pro Stream HD Webcam with 30fps at 1080p & Autofocus – less than £100 – and we may go for this if/when we need to buy.)

We were very happy with the video quality– we wanted to ensure that those Zooming in got a feel of the room; we didn't feel it mattered that they couldn't see everyone, in detail. (To get everyone in view might not be possible – an angle of 120 degrees is I think the maximum, and would obviously show more.) We preferred the **camera** not too high – maybe about four to five feet, hence **small tripod**, on a table (though a pile of *Quaker faith & practices* would work) set along the wall facing the centre of the room. Useful to capture people both sitting down and standing up.

Why **2 laptops**? We wanted one in the room, sat on the table next to the camera, and one in the foyer, so that a 'technical' meeting leader could manage Zoom – i.e. letting people in, asking to mute etc, without this disturbing the meeting. (They would welcome 'physically' at the same time.)

**That's where we are so far. We do not, at this stage, want to incur any costs as we plan to update the Meeting Room with more AV equipment in the near future, and were not entirely sure of the continuing need for blended meetings.**

If you can find someone in your meeting with some technical knowledge this will help enormously. Use what you've got as far as possible. (The only kit you may need to buy is a webcam; the Logitech CP922 will cost less than £100.)

Tom Hilton

# Horsham Meeting local meeting

## Blended meeting for worship

Horsham Meeting held a test blended meeting last Sunday integrating 11 Zoom participants with 8 in person (Our limit is 14 based on current risk assessment). It was pretty successful all round, enabling a gathered meeting in both forms and we certainly plan to continue this going forward, albeit with some incremental changes with eldering (we had 2 elders on zoom & 2 in person to handle welcome and ending meeting as well as muting if needed!) and technical kit as needed.

In person: We asked all Friends to let us know in advance they were coming (just used email reply). A doorkeeper outside checked off the list for Test & Trace purposes, checked on current health & required all to hand sanitise at the door.

Zoomers: exactly as we have all been doing since March. Zoomers obviously saw 2 shots inside the meeting house which showed all seats. Depend on their screen size, the details of faces were not necessarily super clear.

## Equipment

We kept it relatively simple, having had a test a few days earlier. We had **two laptops** in different areas of the room which between them covered the whole space. We used the **integrated webcam** of one laptop and added an **external webcam** to the other. Into one laptop we linked our **hearing loop system** (XL 1560M Induction loop), just connecting the "line out" port from the hearing loop box by cable to the mic port on the laptop. We also had a **speaker** linked into that laptop. The other laptop was linked to a table standing **computer monitor** which showed the zoom participants.

We discovered by trial and error that when connecting the laptop running the monitor to zoom, we needed to join this "without audio" otherwise there was a lot of interference. We have **three microphones** in the corners of our medium sized square meeting room. The sound was apparently just a little boomy over zoom but worked ok if ministry from the meeting room was delivered slightly slower than usual. Otherwise it worked ok. Zoom ministry was super clear with speaker turned up.

We did consider using a standing **microphone** instead of the hearing loop but that would have meant Friends walking over to it to speak which had its own issues.

We also had planned to use our fairly new **projector** to show zoomers onto the plain wall but discovered a number of disadvantages to this:

- The meeting room needed to be fairly dark (blinds down) for the image to be seen - more like a cinema than M4W!.
- The projector fan was fairly distracting for silent worship.
- The picture was not as crisp as the monitor.

So the **standing monitor** was definitely best option for us. We placed it on one side of large oval so could be seen by all in the room but the focus of worship was still centre table and flowers, not the screen!.

## **Going forward**

We will experiment with improvements to the hearing loop sound - doors were open some of meeting which may need adjusting. We may consult the hearing loop specialists for any technical advice. It works ok for now.

Trying out different ways of welcoming on Zoom & in person so all know who is in meeting, especially in person. Trying Elders giving a verbal welcome this week, especially to those in person, which may help zoom Friends.

In some cases Zoomers couldn't clearly see the face of the Friend ministering and had to recognise the voice. Speakers may need to be aware to face a camera while speaking, especially for those needing to lip read.

The computer monitor was borrowed so we are on now on hunt for a second-hand one (or TV with suitable HDMI connection) that can live permanently at the meeting house and be available to hirers. 28 inch screen was minimum size for our meeting room.

## **Last thought**

We were very clear as a meeting in thinking about blended worship that we wanted to ensure any return to worship in person was not going to be at the expense of Zoomers. We had kept up a good community while fully on Zoom with Friends from other meetings joining us. A number of Friends will not be able to return to meeting in person for quite a while so it was vital to find a set up that works well enough for everyone and as far as possible creates an integrated meeting.

I hope this is useful to some of you and enough detail. Very happy to speak to Friends individually if anyone wishes. Good luck to those trying out blended worship soon.

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## **Blue Idol local meeting**

### **About Us and Lockdown**

The Blue Idol is an old, Grade II listed building. It is part residential and has a one room meeting room. Usually we have 30 chairs in the meeting room. There is a small gallery and an Elders bench, neither of which are usually utilised on a Sunday. Our Sunday Meeting for Worship gathers about 20 to 25 Friends each week. At the beginning of lockdown we began by having the Resident Friends present in the meeting house and members of the meeting sat in their own homes sharing Meeting for Worship without the use of technology. After the first week we had our notices and coffee by Zoom after MfW, this gave Friends a chance to try out the technology. The following week we had our first Zoom based MfW, again with our Resident Friends in the meeting house with their laptop. The Resident Friends also set up a phone camera looking out of the front door into our garden, so Friends could have even more visual connection to the meeting house. Many Friends have been joining MfW using Zoom and a few have chosen not to, either way we have all felt connected and nourished by our Meeting for Worship. We have also had opportunities to stay connected with our notices and coffee after MfW, which some Friends choose to join even if they had MfW without Zoom, our weekly Zoom coffee morning and a WhatsApp group.

### **Blended Meeting for Worship**

At our Meeting for Worship for Business in July 2020 we decided we would commence a blended MfW the following Sunday. In preparation for this decision an online survey (using Google Forms) was sent for Friends to complete, if they wished, asking about their experience of online Meeting for Worship, staying connected to the meeting during lockdown and what they hoped for next. This included asking Friends when they hoped to come to the meeting house and what would make this possible for them. A risk assessment was carried out and safety measures taken (see our website for the details). We were able to fit seven pairs of chairs at a 2 metre distance within a large circle around the perimeter of the meeting house. Four chairs are on the gallery as 'overflow' if needed. A marquee was put in our garden so that Friends would have weather protection if they wished to sit outside during and after Meeting for Worship.

### **Our Experience So Far**

We have now had blended Meetings for Worship for over a year. We are settled into this experience now. We are using an online document for Friends to express their intention to come in person, so that we know who to expect and to ensure we keep within our limited capacity. Each week some Friends have chosen to sit in the garden, some using the WiFi to join Zoom and others not. Inside the meeting house the Resident Friends have set up a laptop for Zoom, which is displayed on a larger screen using a HDMI cable, a webcam is placed where it gives a view of most of the meeting house and two speakerphones are used.

Some Friends find the wires and technology off putting and unhelpful for their experience of worship. Otherwise, we have found it positive and possible! The Friend Eldering and facilitating the Zoom and technology in the meeting house has found it helpful for their own experience of MfW to place the laptop to one side with the lid half closed, once everything is set up and for the duration of worship. The audio in the meeting house is left on and the microphone unmuted, for ministry to be heard in and picked up from the meeting house. An Elder also joins Zoom from home. After MfW we have time for notices and news, then

those on Zoom go into breakout rooms to continue to chat and those in the meeting house head into the garden to catch up. We are now offering refreshments at the meeting house, with one person in charge of serving.

### **Technology**

- **A laptop** - Owned by the Resident Friends.
- **WiFi** - Already in the residential flat, we added a 'Devolo Magic' WiFi extender to improve the connection in the meeting house and bring some connection to the garden.
- **A freestanding flat screen** - Donated by a member of the meeting. This sits on a table.
- **A HDMI cable** to connect the laptop to the screen
- **Wide Angle Webcam** - Bought online. £31. We added a USB extension (£3) so the webcam could be placed further from the laptop to get the best view of the room.
- **Two Jabra Speak 750's**. £306 each from Jabra, available elsewhere too. We bought these in 2021 as we were finding our previous speakerphone (eMeet) were not adequate and the quality was poor. The Jabra Speak 750 link together, use internal microphones to pick up sound within the MH and use internal speakers to clearly convey those joining by Zoom. One is plugged in via USB to the laptop and the other is placed within 4 meters and communicates via Bluetooth. Friends within the meeting house can be heard well and clearly on Zoom. These are easy to use - they simply plug in and work first time.

### **In Conclusion**

We have found that whilst this still feels a new way of sharing worship with Friends, we are willing to make the compromises and learn new ways of doing things - we are living experimentally! We would encourage other meetings to have a small group of Friends to take forward the planning - there is quite a bit of work between the risk assessment, changing the meeting house set-up, adding Covid-19 safety measures and figuring out the technology. We have found it helpful and positive to involve Friends in the planning and consideration of changes. Hearing others' feedback has shaped our journey. It has been a joy to see Friends in person again. We plan to continue our blended Meeting for Worship and our midweek Zoom coffee mornings for the foreseeable future, as they have brought Friends together in an accessible and joyful way for many, including those who previously were not able to come to the meeting house at all or often.

Updated 6th August 2021, [www.blueidol.org](http://www.blueidol.org)

## Bakewell local meeting

This is the loaned system that we are using to start Zoom meetings next month. We will buy equivalents if we decide to maintain blended meetings. This has been tested and works fine for a large 8m x 8m meeting space.

**Broadband:** Our building is grade 2 listed in a conservation area, so we added broadband via a 4G router so avoiding any cables etc.

**Computer:** Mac book pro

**Microphone:** Behringer B-2 pro studio microphone mounted on a stand in the centre of the room. Audio settings set to omnidirectional, low pass filter on, max sensitivity. Connected to Steinberg digital interface via 10m XLR cable.

**Digital Interface:** Steinberg UR22C USB interface to computer, bus powered. Main mic input 1 auto selects via zoom software. Phantom +48v power selected for studio mic. Mic 1 sensitivity set to maximum, mix set to 100% DAW, main output control sets powered monitor audio level.

**Monitor:** Denon pro powered monitor connected via main output (L) of Steinberg UR22C.

**Webcam:** Logitech 390e wide angle camera, connected to computer via 5m USB extension cable. Mounted on light weight camera tripod to give best view of meeting.

Software installed on Mac:

- Logitech "Camera Settings" to set and view ultra-wide angle and adjust colour balance to match room lighting.
- Steinberg UR22C device driver.

**Zoom settings:**

- Select Logitech 390e for camera, tick HD camera
- Selected UR22C for microphone input, select auto adjust level. Do not select Logitech 390e internal microphone, it is terrible!
- Selected UR22C for audio output so zoom users will be heard via the external Denon monitor.

## **Watford local meeting**

### **About our meeting**

We typically had about 35 people at meeting for worship before the pandemic, including children and young people. We have a 1950s meeting house, with a square meeting room, a library, and a modern extension with dividers we can use to make a second large room.

### **Online worship**

We took to Zoom swiftly, and have had larger numbers attending than in the meeting house – up to about sixty, though we have come down from that peak to the 40s. We had practice sessions for Zoom, and online coffee mornings, which helped people learn and adjust when not being in worship. We run a children's meeting and a monthly teenage group, which both work well online in breakout rooms. It helped a lot that we ran practice sessions for those who help with the children's and teenage groups, and to induct people to share out the technical hosting of the Zoom meetings.

### **Blended meeting for worship**

We had a planning group of people from various roles, to look forwards. We surveyed Friends, and found about 24 out of 40 responding said they would like to attend meeting for worship in person. We knew there were many Friends who would wish to stay on Zoom for many months. So we considered holding blended worship at business meeting, and agreed to start this when we were ready. We had several trial runs and practices while we adjusted the equipment. With only 16 seats now available in the main meeting room, plus another 7 if people from the same households sit in pairs, we faced the prospect of needing a booking system. That felt uncomfortable. So instead, we decided to have a second room for worship, giving another 12 seats, connected by Zoom, so everyone could be part of the same meeting for worship. Friends wishing to remain outdoors to reduce risk, or not wanting the technology, are able to use a patio or the garden during meeting for worship. During August and September we continued to hold our children's meetings online, as it is going well, and we will review.

We held our first blended worship on 3 August, also opening the meeting house for the first time. 11 people came in person, 3 of whom sat in the garden, and we had about 30 online. If it had rained, and 6 more people had come, we would have needed to use the second room. The numbers have gradually risen further. It is a great pleasure to have several Friends who had not been joining worship online become visibly and physically part of our worship together again. They really appreciated it. On the other hand, several people who have been meeting online were not keen on having the TV screen in the meeting room. Expect there to be many opinions! We gave it some time, and have since reviewed this, and decided in our September business meeting to experiment with once a month not turning on the TV screen, just using the sound.

As we expected, we are making some small adjustments week by week. For example:

- We found our mic picked up more background sounds outside the meeting room than when experimenting, because the doors were open for ventilation.
- During notices and Joys & Concerns, our co-clerk couldn't see the TV screen well, so stepped forwards to see who wanted to speak. He then had his back to the central mic and couldn't be heard. So we learn! We now have a second mic, on a stand, for use when speaking towards the TV.

- We have explained to people on Zoom that they may wish to 'pin' the video of the meeting room, so that they see this larger on their screens.

We will also have to reach some interesting decisions about our second room once the children's meeting is ready to return to it, and more parents come in person. We may find that as the children go out of the main room after 15 minutes, a group of adults come in from the second room – fortunately we have several doors to help with the flow!

## **Our Equipment**

**Microphone:** Our Meeting Room already had a single studio-quality microphone hanging in the centre of the room, feeding our hearing loop system. It is a Rode condenser cardioid microphone requiring phantom power, and surprisingly cost just £125. By using a simple XLR splitter we were able to take a feed from this microphone into a single channel USB **pre-amp** (Scarlett Solo £92) and into the laptop running Zoom. The other feed from the splitter goes as before to the pre-amp for the hearing loop. We have added a **second mic** on a stand for when someone is speaking towards the TV screen, for example giving notices. This is an AT8010 costing £186, and the stand cost £12. Our pre-amps handle both mics – so we have not needed a mixing unit to combine the two mics.

**Webcam:** We changed our first wide-angle webcam for a £30 simple 90 degrees webcam, which provides a good view of the meeting room, while enabling some people to sit out of view of the webcam if they prefer. We have now brought the webcam down to eye height, which gives a more natural feel for seeing the meeting room.

**The wifi signal** was insufficient to provide a robust connection to the internet. We upgraded to superfast, and ran an ethernet cable from the router into the meeting room. We changed from using a wifi repeater to plugging the ethernet cable into the PC, to avoid losses in signal.

**Screen:** We started with a borrowed 42" TV lent by a Friend. This provides the sound and "gallery view" of those at home on Zoom. Then we installed a basic Sony 55" 4K UHD TV on a wall costing £500, and added a curtain along the wall, so it disappears if we do not want the TV visible. It has more than 1 HDMI socket, so hirers can plug in their own laptop. Some seats in the meeting room face away from the TV, so some Friends cannot see the TV easily, though some may prefer that. The **TV's speakers** can be heard clearly. We found that using our old **digital projector** was not strong enough to be seen well in a bright room with curtains open.

**Computer:** We started with borrowed laptops, including one with a graphics card capable of showing up to 49 people on one Zoom screen. We have now installed a Lenovo tower PC for £425 (V530s-0781CR tower). This will always be available for the meeting. It is silent, being solid state and without a fan. Again it has a high quality graphics card, showing 49 people on Zoom.

**A second room** was set up in case we have more people attending than could fit in the main meeting room. This also has borrowed equipment: a laptop, TV, USB wide angle camera and a USB microphone. It is close enough to the router to ensure a good internet connection.

**Total cost for the main meeting room is £1373** plus the curtain and a shelf.

Our initial set-up can be seen in the photos below.

TV Mic Webcam Wire from splitter



Second room:

Webcam Mic Speaker TV Laptop



The new screen now sits here:

[www.watfordquakers.org.uk](http://www.watfordquakers.org.uk)

## Pendle Hill – Quaker centre in USA

Here are technical details shared in May by Pendle Hill for their experiment in bringing online worshippers into daily worship at The Barn.

We use two laptops – one for display to those present, and one for tech support.

### **Meeting room display laptop**

The **laptop** logs into the Zoom account and then connects to Zoom. We connect an external **camera and microphone set** Logitech HD 1080p that does a good job of picking up noise in the room. Because the room has so few people in it, and wooden floors, there is a slight echo that bothers some people. We connect a 45 inch HD Toshiba 46G31OU **Monitor** to the laptop with an HDMI cable. Our monitor has both HDMI and USB ports and **built in speaker** which powerful enough for the room.

Friends comment that there is an echo in the barn – we think this has to do with The Barn acoustics as much as the microphone. On June 5 we started experimenting with a Novo mc1000 **microphone** located more centrally in The Barn, while continuing to use the camera feature in the Logitech HD 1080p. Zoom worshippers commented that this was an improvement.

**Tech laptop:** This logs into the Zoom as host. It is essential the Tech Laptop's mic is muted and speaker turned off. The Tech let's people into worship, changes their display names (as possible), answers technical questions via chat, turns off microphones accidentally turned on. At the very end of worship, Tech unmutes everyone for "Good morning." After a minute, mutes everyone, then unmutes Meeting Room for introductions and announcements. Then at very end, unmutes everyone for "Goodbye".

## Oxford local meeting

### Our meeting house

We have 9 letting rooms of varied size suiting everyone from one to one therapies up to conferences. We have been installing TV screens and all the equipment to enable video conferencing in our meeting house and another couple of rooms.

### Our preparations

It's been an uphill struggle/steep learning curve - bit like the whole lockdown process. However today I finally placed the order for equipment and labour and hope to have it installed for when Oxford starts its first in-person meeting 1st week of August – thus enabling "blended" worship in at least one room.

Premises and Finance Group approved spending on upgrading some of our 9 letting rooms in June because we recognise that with vastly reduced room capacities the only way we could be viable in the future is to encourage groups back by being able to use good zoom or similar facilities. This is also in line with trying to minimise travel into central Oxford for many. So, for example, Citizens Advice training could have 4 people in attendance and perhaps 10 more on screen from around the country. We also of course have many Friends who need to continue to shield for the duration but who need to feel connected to the place and the people they love.

We contacted the company in Oxford with whom we have a contract to sort our computer problems (and we have had a few – mostly due to dodgy, randomly assembled equipment over the years put together by well-meaning but then unavailable volunteers). We have gradually got on a more professional footing now – funded by increasing our letting income – and have fewer problems. Our company worked on a quote which our next Premises and Finance Group meeting reviewed, deciding to run it by a member who works in the computer department of the University to get a second, informed opinion. Moral – there's always someone you haven't thought of who knows more than you and wants to help. You will know if you trust them and if so pause and take advice. We then went back to our company with some recommended cheaper alternatives to kit to get a similar result for less cash. The company came back with a revised quote and we are now going ahead.

### Our Equipment

**Main Meeting House** Room capacity 100, now post-COVID: 24

Equipment (in English): **big telly** on mobile stand with **dedicated mini PC** to control. **Webcam** for boundary view. Using our **loop system** and **radio mikes** plus possibly small add on **speakers**. We have Anker sound core mini speakers – quite adequate – and also a larger sound system for film shows so we will mackle something out of that.

<b>TV</b>	Toshiba 55" 4K Ultra HD HDR Display- 3840 x 2160 Resolution - 4x HDMI Connectivity - VESA Mountable- Weight: 15.5Kg- 2-4 Working Day Delivery	£425.00
<b>Mini PC</b>	Refurbished HP ProDesk 400 G2 Mini PC. - Intel i3-6100T Processor - 240GB SSD - 8GB DDR4-2133MHz RAM - DisplayPort / VGA Connectivity - Windows 10 Pro - 1-Year Warranty	£230.00



<b>Wireless Keyboard and Mouse</b>	Logitech	£20.00
<b>TV Trolley Stand</b>	RFIVER TV Trolley Stand- Supports 27" - 55" TV's with VESA Compatible Mounts - Height Adjustable and Rotatable Mount - Mount Supports up to 50Kg Weight - Shelves Support up to 15Kg Weight- Integrated Cable Management System- 5-Year Manufacturer Warranty- Height: 123.5cm - 133.5cm, Width: 60cm-2-4 Working Day Delivery	£68.00
<b>Webcams with mic</b>	Logitech C930e Webcam- 1080p Full HD Quality - Wide Angle Lens (90°? Field of View)- Built-in Mic	£119.00
<b>Labour</b>	Labour for Onsite Installation of TV and Mini PC. This would cover: Building the TV stand, Mounting the TV, Connecting Mini PC to the Network and finishing off any extra required prep. Estimated 2 hours labour @ £88 p/hour	£176.00
	Labour for Prepping Mini PC, Updating Windows to the latest version, Updating Drivers, Configuring any required setup	£68.00
<b>Total</b>		£1,106 + VAT £221 = £1327.20

**Long Room/Upstairs** Capacity was 18, now post-COVID is 7.

This is in our main building and the reason to have similar kit on a stand is so it can be moved to another room. I would have preferred a wall mounted setup but we can always adapt and change as we go along. Similar English definition to above but smaller TV as smaller room.

<b>TV</b>	Philips 43" 4K Ultra HD Display - Wall-mountable - 3x HDMI Connectivity - Weight: 8Kg	£300.00
<b>Mini PC</b>	Refurbished HP ProDesk 400 G2 Mini PC. Intel i3-6100T Processor - 240GB SSD - 8GB DDR4-2133MHz RAM - DisplayPort / VGA Connectivity - Windows 10 Pro - 1-Year Warranty	£230.00
<b>Wireless Keyboard and Mouse</b>	Logitech	£20.00
<b>TV Trolley Stand</b>	RFIVER 27" - 55" TV Trolley- Supports 27" - 55" TV's with VESA Compatible Mounts - Height Adjustable and Rotatable Mount - Mount Supports up to 50Kg Weight - Shelves Support up to 15Kg Weight- Integrated Cable Management System- 5-Year	£68.00

	Manufacturer Warranty- Height: 123.5cm - 133.5cm, Width: 60cm- 2-4 Working Day Delivery	
<b>Webcams with mic</b>	Logitech C930e Webcam- 1080p Full HD Quality - Wide Angle Lens (90° Field of View)- Built-in Mic	£119.00
<b>Labour</b>	Labour for Onsite Installation of TV and Mini PC This would cover: - Building the TV stand - Mounting the TV - Connecting Mini PC to the Network and finishing off any extra required prep	£176
	Labour for Prepping Mini PC- Updating Windows to the latest version - Updating Drivers - Configuring any required setup	£68
<b>Total</b>		£981 + VAT £196 = £1,177.

So, for in the region of £2500 we will have two flexible set ups – be Zoomtastic.

Of course we are increasing the Zoom licenses to allow more concurrent meetings to happen (when we have anyone who is permitted to return!). We will allow groups to come in with their own equipment for small-scale laptop Zooms etc. We could have bought a job lot of bits and screwed it together but we may have screwed it up! – as so many of us have done in the past. We also know if something goes awry, our company will be with us within an hour and that means a lot when you have a conference breathing down your neck (as we one day hope to see again!).

We are trying to get Elders/Clerks/Pastoral Care/Trustees involved together in whether we can supply the most isolated and vulnerable Friends with smart phone/tablets and simply training – it's taking time. We are probably only talking about 3 or 4 people here but the need is there and now. We really do need to find ways of being more supportive and creative about all this "stuff".

## **Horfield local meeting, Bristol**

We have set up blended worship at Horfield FMH, Bristol, with the first session taking place on Sunday 30th Aug. We used information from the professional quotation prepared for Oxford Meeting, and supplemented it with our own research and experiment.

### **Computer**

We have found that we need to be able to control the computer during Meeting, for two reasons. Firstly, our normal Zoom display is “gallery view”, so that there is a number of small images, one for each of those on Zoom at home. But if a Friend at home gives ministry, then we change to “speaker view” which means that their image fills the whole screen, so that they can be more clearly seen by those in the meeting room. Secondly, although everyone at home should have their microphone “muted” (unless ministering), sometimes people accidentally unmute themselves and transmit background noise. So it is helpful to have access to the computer so that the “host” can mute them again. We have found that these two functions can be performed easily during Meeting for worship without causing distraction to other Friends present.

The computer needs to be positioned conveniently for connections to microphones, camera, display screen and power. However, from this position the Friend controlling the computer in the meeting room may not have a good view of the main display screen. A laptop has the advantage that it has its own screen (duplicating the main display) easily visible to the Friend sitting by it.

Because our meeting already owned a laptop, we have used this. The quotation for Oxford specified a low-priced desktop computer with a wireless keyboard and mouse, but no screen of its own. Such a computer can be positioned conveniently for the cable connections. However, the Friend in the meeting room would need to be positioned to clearly see the large display screen, but also be close enough to the computer for the wireless keyboard and mouse to work.

Our laptop is an Apple MacBookPro. However because of the problems connecting a microphone to a Mac (see under microphone below), it may be better to have a Windows based computer.

A wide variety of computers would be suitable, so if you already have one, try it. We point you to the one specified for Oxford,

The computer will need to have a suitable output socket (probably HDMI) to connect to the screen, a USB socket for the camera, and a socket (jack socket or another USB) for the microphone input.

### **Camera**

The built-in camera of a laptop should give an image of sufficient quality, but it does mean that the laptop would have to be positioned appropriately, which would be likely to compromise the ability to operate the computer during a meeting. Therefore a separate camera is needed, positioned to give a good view of the meeting room.

You can buy a simple webcam for £20-£30. However we used the same one specified for Oxford (about £120) because it has a wide angle lens, so the field of view can encompass

more of the meeting room. It also has the ability (after downloading some free software) to pan and tilt under computer control – but we have not tried this.

Logitech C930e Webcam- 1080p Full HD Quality - Wide Angle Lens (90° Field of View)- Built-in Microphone £119.00

### **Microphone**

We connected the microphone from our hearing loop system, designed to pick up speech from all parts of the room. We found that the output from the “phones” socket of the PDA hearing loop transmitter was very distorted, but fortunately our system also has a wharfedale pre-amplifier, which also has a “phones” socket. We took a cable from this to our computer, with good results.

### **Be aware of a specific microphone issue with MacBooks.**

If you think that surely Steve Jobs would make it easy to plug a mic into a MacBook, you are mistaken! Just Google “how do I connect a microphone to my MacBook” and you will see discussions of TRRS versus TRS jacks, splitter devices that ought to work but don’t, and YouTube videos with varying levels of tech gobbledegook.

Most computers have separate jack sockets for a microphone and headphones. However MacBook computers have a single combined mic and phone socket (really designed to plug in a headset), and some (including our MacBook Pro) have none at all! Also the specific connections in the plug/socket don’t follow the common standard. Therefore, unfortunately, plugging a simple microphone in to a MacBook socket fails to work.

The solution that worked for us was to get a “**usb sound adapter**”, a small device which has separate mic and phones sockets, and plugs into a USB socket of the computer. A variety are available. The one we use is a “Sabrent external sound adapter” costing £7.99 <https://www.amazon.co.uk/Sabrent-External-Adapter-Windows-AU-MMSA/dp/B001RVQ0F8>

### **Screen**

For the main screen that is to be viewed by all the Friends in the meeting room, any large TV will do (size dependent upon the size of your room, and your budget). The TV will need to have an input socket of the same type as the video output socket (probably HDMI) of the computer.

The speakers within the TV should be adequate for everyone in the meeting room to hear what anyone on Zoom is saying. The signal for this will come down the same HDMI lead as the picture.

It is possible to buy dedicated computer monitor screens, but these are more expensive than a TV of the same size. Such monitors are capable of giving a sharper picture with more rapid response to a fast-moving image, but this higher quality is superfluous for a Zoom meeting.

Warden, [horfield.warden@bristolquakers.org.uk](mailto:horfield.warden@bristolquakers.org.uk)

# **Stocksfield Quaker Meeting**

## **Our Meeting**

Stocksfield Quaker Meeting, part of Northumbria Area Meeting, sits on the A695 in the Tyne Valley and is on mainline bus and rail routes between Newcastle upon Tyne and Carlisle. A former Co-op dairy, then an office, the building was gifted to the established but homeless Stocksfield Quakers some 40 years ago. The building has capacity for about 45 in worship and has a well-resourced library/children's room, kitchen, toilet and a garden to the rear. A small meeting, it comprises 29 members and attenders, just one of whom lives in Stocksfield, the remainder travelling in from nearby villages and Hexham town. A normal Sunday Meeting for Worship might attract up to 12 Friends.

The Meeting House (pre-Corvd19) hosted weekly "Friendly Fridays" for isolated and elderly villagers, a monthly "Friends on Fridays" – a social gathering with an invited speaker - and had three established weekly lettings to other community groups. There is a close relationship with Churches Together in Stocksfield.

## **Online Worship**

From the first Sunday following lockdown in March, Stocksfield Quakers offered online Meeting for Worship on Zoom using a paid-for subscription shared with Area Meeting and Trustees. Opening Zoom doors from 10.30am, from 11.00am, a 40-minute Meeting for Worship is followed by "Afterthoughts" and Notices. A short time is left at the end for sharing our week with each other. There are two social gatherings, on a Wednesday afternoon and Friday evening.

Attendance at Sunday worship has peaked at 25 Friends and has now settled at anything from 15 to 20 Friends. Online worship has attracted several elderly or disabled Friends who were infrequent attenders in person to join worship regularly from their homes. Timings meant others with busy family Sundays can join the worship without the time challenge of travelling to and from the Meeting House. Friends from other Local Meetings have joined our worship – and also worshippers from France and the Ukraine. Our online worship is disciplined, deep and much valued by Friends who gather. It is a significant marker in their lives under isolation, lockdown or social distancing.

## **Blended Worship**

We have yet to hold a "blended" Meeting for Worship. However, we are now fully equipped to offer a blended Meeting for Worship once we have agreed to reopen our Meeting House, possibly in September 2020. Our Meeting has fully embraced the concept of blended worship and our direction of travel was agreed at a Meeting for Worship for Business. A number of Friends have said it will be the only way they can join worship for the foreseeable future.

Our Friend Averil Armstrong was asked to lead our move to blended worship. From our Meeting, spring forward our Friend Tim Thompson, a handy-man extraordinaire who offered to conceptualise, plan, purchase, install and test-drive our blended set-up. Several years ago Tim completely remodelled the interior of the Meeting House and recently moved a doorway nine inches to the left, installing a disabled lift between the meeting room and kitchen. What Tim does not know he reads up about it, and, following a brief learning period Tim was confident enough to identify a suitable technical solution and design and build a corner-cabinet to hold our new equipment.

Following the new installation of a telephone line and broadband Tim put the new equipment in place and tested it with a number of Friends Zooming in on a wet Wednesday morning in early August 2020.

### **Commentary**

The **Logitech “Group” video conferencing** produces excellent sound reproduction and broadcast and clean crisp images from its camera which has an excellent range of zoom capacity. Wiring is stowed away in the **bespoke cabinet** and when the system is in use only two cable connections run from the laptop to the cabinet. The control pod wiring is in a custom groove under the carpeting and can be disconnected and stored in the cabinet when not in use. The cabinet has a blind which can be lowered when kit is not in use and to screen from the outside. “Group” kit control is from the pod – on the Meeting Room table - or by remote control. The **TV** too has a remote control. Friends test-driving from home reported clear visuals, excellent sound reproduction and a sure sense of being in the Meeting Room. **Camera** zoom enables close-ups of Friends in Meeting, particularly when ministering.

The TV monitor is not intrusive in the Meeting Room – chairs can be arranged to include the monitor as part of a circle, or set outside of a circle. Friends can also join the Meeting from laptops in the garden or from the library/children’s room. The above kit is suitable for a small to medium sized room. Bigger Meeting Rooms will need to scale up in terms of locating kit, microphone and speakers and TV monitor. The new kit and cost of installation was almost completely funded by two anonymous and generous donations from Friends in the Meeting.

### **Equipment costs**

- Logitech “Group” Video Conference Kit £1,000.00
- Lenovo Laptop Idea Pad 5 £549.00
- United TV 32 inch (81cm) LED32, HDMI, USB etc. £129.00
- Broadband Phone Coop Installation £50.00 and Monthly £20.00
- Bitdefender Internet Security £25.00 per annum

It is quite possible that the same kit could be set up in a cabinet on wheels/castors and moved around a Meeting Room or Meeting House.

### **And finally ...**

Stocksfield Quakers believe the new facility will support Friends unable to journey to Meeting physically or out of concern for infection from Covid19. It will enhance the usefulness of the Meeting House to local community and business groups or to villagers without IT access to friends and family in other parts of the country or abroad.

Being “blended” has opened up a new chapter in the story of our Meeting and we look forward to testing its value to our worship, our sense of oneness as a Meeting and our value as a genuine community resource.

Michael Long, Stocksfield Local Meeting

# Central Bristol local meeting

## About our meeting room

Our main meeting room is 7m x 10m and 5m high – 350cubic metres of volume – so it needs speakers and microphone systems thought about by an AV expert so that the results do not disappoint. One of the long walls comprises three large windows on the sunny side of the building. Curtains are fitted.

## Our Equipment

The wall mounted screen is fitted to the adjoining wall i.e. at right angles to the window wall. We used a 135 inch (diagonal) **screen** which sounds huge but fits the purpose well. The **projector** is central mounted in the ceiling. It is very important that the brightness (lumens) of the projector is designed for not only the distance to the screen, but also produces an image visible in daylight. We fitted a 6000 lumens LED type – very bright.

**Speakers** are fitted high up in each corner, about 1m from the ceiling, and are quite unobtrusive. We already had a 19” **rack** for the hearing loop, and our hardware was fitted into this neatly. It is an 18`U rack ( where one U is 1¾ inches) so it as about 1m high overall with a transparent lockable door.. This is the best way to enclose all this kit otherwise there would be wires everywhere, and perhaps difficulties with cooling. In order to connect a laptop or microphones to the system, a **connector panel** was made and fitted to the side of the 19” rack. This contains an HDMI socket, two microphone sockets with volume controls, a USB port, and a master volume (output) control.

We already have WiFi and a laptop. A **laptop** may be sat on top of the 19” rack, or set on a table as for a conference. So we have a **5m long HDMI lead**.

We chose to have a wireless **microphone** to simplify handing between those wishing to use it. An aside on our hearing loop. There is a **hearing loop** with a central ceiling mounted microphone. This was originally badly designed and doesn't work too well!. The design doesn't work because the loop is installed at ceiling/wall level 5m up, whereas it was designed for a standard ceiling height. The strength of the magnetic field projected by this loop of course drops off as the inverse square of the distance so that for seated hearing aid users, the signal strength is about ¼ of what is required. But that's another story.

We have an **ethernet port** fitted in the wall near the 19” rack, so that said laptop can connect directly to the internet. Our **wifi** system is not yet proven to work reliably enough in that corner of the meeting house, so the ethernet socket may be pressed into use.

All this was installed in February just before lockdown, we have no real experience of its usability, apart from testing it. It is capable of use for blended meetings but not yet trialed. We did not attempt integration with the hearing loop, as yet.

Our designers provided the equipment and fitted it in two days. Post COVID, you are welcome to come and take a look. We can recommend our supplier, who works throughout the UK, contact details on request.

- Panasonic PTVMZ60 **Projector** £2,500
- (List price is £3,500, so we got a bargain)
- Wall mounted Electric **Projector screen** 135” £600

○ <b>Ceiling Projector mount</b>	£98	
○ Cloud MPA120MK2 <b>Amplifier mixer</b>	£478	
○ Revamp 2120T <b>Amplifier</b>	£450	
○ <b>Speakers x4</b> Apart Mask 6CT Wht      £120	£480	
○ <b>Local Input Control</b> plates custom made for inputs	£252	
○ <b>Wireless microphone</b>	£41	
○ <b>Misc and wires</b>	£355	
○ <b>Others</b>		
○ Extra long mains Projector leads		○ Audio Interconnects
○ Extra long mains Projector screen cabling		○ Projector audio cable
○ Speaker cabling		○ Rack mounted cooling fan for existing rack
○ Category 6 cabling (HDMI)		○ Rack shelf
○ HDMI over Cat 6 Extender		○ Rack blanking plates
○ HDMI & Surface mounted input plate		○ 6 Way Anti surge block
		○ Cage nuts
		○ Surface trunking
● <b>Installation works:</b>	<b>£695</b>	
● <b>Grand Total</b>	<b>£5,949</b>	



# Stories shared in 2023 and 2024

## **2023.11.23 Query circulated to the AM clerks' forum and the AM clerks of trustees' forum (liaison group) by Deborah Rowlands and Carole Rakodi, S Wales AM**

Dear Friends,

South Wales AM is thinking about whether to invest in superior equipment suitable for blended in-person and Zoom meetings, mainly in our medium sized city centre Meeting Houses in Cardiff and Swansea. Using their own funds, both (and several of the smaller LMs with their own Meeting Houses or which hire premises for their meetings) have already invested in equipment suitable for blended meetings, which is used for Meetings for Worship and business meetings. However, this is not adequate for larger meetings or conferences.

We are considering whether it would be beneficial to these LMs and the (geographically scattered) AM to be able to offer better blended meeting facilities to tenants and prospective hirers, as well as the AM as a whole. We are interested in the experience of other AMs/LMs, including the equipment they have found to be suitable (or unsuitable), the need for (and type of) technical support required, whether the availability of superior equipment has attracted new tenants and/or hirers and increased Quakers' public profile, and the approximate cost of the equipment and technical support needed.

We would also be grateful for any additional advice and comments Friends have to share about conducting blended meetings successfully. We are continuing to build on our experience and information which Friends have already shared.

We are sending this query to both the area meeting clerks' forum and the area meeting clerks of trustees' forum as it seems to us to raise issues for both trustees and the right holding of area meetings.

Mewn Cyfeillgarwch

In friendship

Carole Rakodi (Clerk of Trustees of South Wales AM)

Deborah Rowlands (co-clerk of South Wales AM)

## **2023.11. 23 Staff member, Quakers in Britain**

A piece of equipment which has helped is an OWL (meeting owl 3 is the product on this website: <https://owllabs.co.uk/shop/>) – it is a 360 degree microphone-camera, and it allows remote joiners to a meeting of up to around 15 people to see what is going on really well. The Owl sits in the middle of the table and shows on the screen whoever is making the most noise at any one time – hopefully the person who is ministering, clerking or whatever. It really improves the feeling of being in the room.

Not cheap, though.

NB From Deborah: Your very specific advice about numbers is useful. The best product may depend on the numbers and the ratio in room to those online. For our area meeting (SWAM) it's been about 12 -15 both online and in person.

## **2023.11.23 A Friend from New Earswick LM**

New Earswick LM (York) uses an Owl (<https://owllabs.co.uk/products/meeting-owl-3>) 360 degree microphone-camera.

## **2023.11.23 Minute from Friargate LM, York 1 Oct 2023**

Summary: Friends in Friargate LM have explored the possibility of introducing blended meetings (in addition to regular in-person and zoom meetings). They considered the results of a consultation by elders and a technical and financial report.

Consultation by elders (60+ Friends who attend Friargate regularly, either by zoom or in person). To consider the continuation of zoom meetings for worship, in-person meetings, and the possibility of holding blended meetings (monthly MfW, business meetings and other events e.g. memorial meetings). All those participating in zoom MfW (6 respondents) strongly favoured the introduction of blended meetings. Of those attending meetings in person (55) 38 were in favour of introducing blended meetings (strongly or with reservations) and 12 against (strongly or on balance opposed). Those who favoured the introduction of blended meetings felt that it would increase the inclusivity of MfW and encourage unity, while those in favour with reservations were concerned about the effects of introducing technology into in-person MfW (its possible effect on the spiritual intent of meetings, cost, intrusiveness, the use of microphones and the need to manage the technical side of the meeting). Some raised the question of safeguarding e.g. if a newcomer/visitor is present, if the faces of children who join the meeting appear on screen. Various alternatives to blended meetings to ensure that the LM remains inclusive were suggested. The meeting did not reach unity but is keeping the matter under review.

### **Technical and financial report by Resources Committee:**

- a basic system (similar to that used by New Earswick LM) might be comprised of an Owl combined microphone-camera (a portable cylindrical device which sits on a table, height 270mm/11in, width 117mm/5in) and swivels towards whoever is speaking, max range of 6m for sound, 3m for video, cost £1,000 approx), with a large screen LED monitor (on a mobile tripod stand, cost £3,000 approx) and laptop. Suitable for rooms up to 12x12m if located in the centre of the room, with chairs in a circle, but speakers need to allow time for the Owl to find them, move so that they are no more than 3m from it, Friends sitting in a second circle of chairs cannot be seen or heard, and the layout for business meetings might need to be adjusted. Such a system, which can be moved from room to room, might appeal to hirers.
- a more sophisticated system for larger rooms – this would be a fixed system which would require several microphones and either a camera with a very wide-angle lens (which would not be able to zoom in on an individual speaker) or several cameras, two or more LED screens and a control console. In some cases, it might be possible to link into an existing sound system.

Part of the minute reads “We have heard of the advantages of blended meeting, its technical feasibility and the likely financial requirements. We have also considered the

impact its introduction might have on our worship and the meeting as a community. Having considered these issues carefully, at the present time we have not found unity regarding the immediate introduction of blended meeting for worship". However, the LM encouraged Friends to experience blended MfW elsewhere (e.g. New Earswick) and agreed to explore alternative technical arrangements).

### **2023.11.23 A Friend from Bradford on Avon Quaker Meeting**

The most important (and most expensive) piece of equipment is a Logitech MeetUp soundbar/camera. This includes microphones that pick up from about 5-6 metres quite easily (for a wider range there are extension pieces available at additional cost - which we didn't bother with), good quality speakers, and a bright very wide-angle camera. The camera lens can be panned, tilted and zoomed (up to 4x) with the help of the remote control. This unit is also used in some meeting rooms of the Quaker Centre in Leeds and Friends House London. It can be wall-mounted or put onto a table. The ones in Leeds and London are securely wall-mounted above the TV screen (which makes those on Zoom feel like they're a spider lurking near the ceiling when they look at the people in the meeting room), ours is wall-mounted below the TV screen (roughly at eye level of people when seated, making Friends on Zoom feel more part of the circle in the room), and instead of having it permanently secured, we take it off after each use and lock it away.

We also have a wall-mounted 65-inch Toshiba TV screen and a dedicated simple laptop.

#### **Costings are roughly as follows:**

- £700 for the Logitech MeetUp
- £550 pounds for the TV screen including wall-mounting bracket
- £160 pounds for the HP laptop

At our first Area Meeting with this set-up, we placed the Clerks' table at the far end, i.e. quite far away from the soundbar/camera. We discovered that sound transmission was not good enough, and that the Clerks had to step in front of the table every time they wanted to speak. Since then, we place the Clerks' table nearer to the front, somewhat side-ways to the TV screen, and this works much more satisfactorily.

In our Area Meeting, we have only 2 Meeting Houses, both with blended Meeting gear. As the other Meeting is a bit struggling, our Meeting in Bradford on Avon hosted 3 of our 4 AMs this year (or will have done, once the next one in December has taken place). However, we decided that we prefer to hold our AMs again in different locations and, if necessary, hire another venue if another LM's rented premises aren't suitable for a blended meeting. The laptop and Logitech MeetUp could be brought along to such a venue.

The TV screen and laptop have been made available to Meeting House users - although most tend to bring their own laptop. This has proved quite popular with hirers, as it's so much easier to set up than faffing about with a projector as we used to do in the past.

We decided against making the Logitech MeetUp available to hirers, given how easy it is to damage or steal it. This remains reserved for Quaker use, at least for the time being.

## **2023.11.23 A Friend from North Wales**

We have blended facilities in two venues, which work OK in those venues with online participation. What we had hoped to do was link the two places together for joint in-person meetings (so far, we have invested in one wide-angle camera) but this has proved too difficult with respect to sound quality and adding at-home online Friends. We now hope to use it for having a speaker, online or in person, in one of the two venues, with lots of Friends meeting there too, and everyone else watching from home.

## **2023.11.23 An Area Meeting clerk**

I think there are different interpretations of "a blended meeting". In our case we are fairly successful, with most people meeting in one venue and individuals or couples joining in. We have not tried having larger groups joining together. It is difficult for all the people in a large group to be seen. We have also had blended business meetings where we use two laptops (one on mute with sound turned off to give a view of the clerks) and the other driving a projector and using a Nuroum C20 all-in-one conference camera which gives a view of those assembled using its webcam, has a 4 directional microphone and a loudspeaker. This serves our needs for MfWfB.

## **2023.11.23 Saffron Walden LM: equipment for interactive/blended meetings**

We do find external hirers are willing to pay for use of the equipment, but I think we are far more interested in our own use of it, which has been a massive plus. Photos of the set up at <https://photos.app.goo.gl/8uiSGkeRKgjEQyHW8>

There are several pieces of equipment you need to hold successful interactive meetings. Here is a list in order of importance.

### **1. Microphone**

Get a Blu Yeti for around £100. Do not consider getting anything else unless you are an AV specialist. Get a USB cable that is long enough that you can position your microphone in the middle of your room, where it picks up sound from anywhere in the room - in Quaker terms on the table next to the flowers. Also get some foam to stand it on. It is so sensitive that it will pick up structure-borne sound such as people walking across the floor unless it is insulated from it. This will enable people joining remotely to hear what is going on very well in the room while the people in the room will be able to speak naturally without the need to go to a microphone. (NB a comment that a Yeti mike does not necessarily work well in the acoustics of a large room)

### **2. Data projector**

This needs to be a short throw projector on a trolley (not Ultra short throw unless you are having it professionally installed in a set position). This will allow it to be positioned much closer to the screen or a wall, if you are lucky enough to have a plain white wall. It means it can be beside a speaker who is giving a lecture from a desk/lectern and project behind them to a fair size. It also means that you can have a Quaker meeting where one part of the circle is a table holding all the equipment and projects to a height of about 6 ft without intruding into the circle at all. This gives the feeling of being a continuous circle with those joining the meeting being a

continuation of the circle rather than something other. Do not get a standard throw projector, you will have to put it in the middle of the room, creating trip hazards. Consider the lighting conditions that you will be using the projector in. The brighter the conditions, the more intense the light (lumens) needed to cast a definable picture. One element of this intensity is the screen size. So if you are happy with a screen size of say 6ft diagonally you will have 4 times the intensity of using the same projector to project to a 12 ft diagonal screen. But if you want a daylight projector for a large screen you will have to get some mega equipment to manage it. If you are OK with smaller screens or can shade the room a bit then you should be able to do very well with a projector for £500 or less. I have even managed to use £500 projectors in marquees in daylight on smaller screens.

### 3. **Wide-angle camera**

This is what creates the visual experience for those joining online. Try and get a camera that is 120 degrees as this will help people to get more of a sense of who is in the room. Do not rely on a laptop camera, they are tuned to focus on a single person sitting about 3 ft from their screen. There are some fancy cameras/software that will zoom in on speakers. These can be good for board meetings but probably don't add much in our context.

### 4. **Data connection**

If you have wifi then it should be able to cope with the Zoom call but if you don't take a look at [three.co.uk](http://three.co.uk) who offer unlimited mobile broadband from £20/month. Depending on your location you can get either 4g or a 5g/4g router.

### 5. **Laptop**

Most laptops should be able to cope with running a Zoom meeting through a data projector, so just get hold of an old one that is capable.

### 6. **Speakers**

We use a set of external laptop speakers and they are fine for our meeting, we have them at a level where someone speaking at home comes out as if they were sitting in the room. There is nothing special needed about the speakers, but it would not work if we tried to rely on the laptop speakers or the speaker in the data projector.

## **2023.11.23 A Friend from SE London AM**

I feel there are 2 angles to this:-

1. Getting the right equipment: there is not going to be one answer, as our buildings are so different. I wonder if BYM could help to organise a network of specialists?
2. Quite separately, there is (in SE London anyway) a wide spectrum of reactions to blended meetings. At one end are the Friends who love the inclusivity of people worshipping together wherever they may be, at the other a number of Friends who feel that using IT for MfW is somehow improper and that we should worship as we always have done (presumably without central heating or flush toilets!)

This isn't just Quakers: there seem to be a series of psychological reactions to online work/worship. Many of the early Quakers were illiterate (I am told) - did they have a similar problem when books were introduced into MHs? I suppose it is the stress of change. I wonder if Prof Ben Pink Dandelion could be asked to think about this? He has PhD students who may be looking for subjects?

## 2023.11.23 Another Friend from SE London AM

As I don't know the details of the equipment that other people are using for this purpose, my comments are worked out from basic principles.

It would be very useful to know what equipment other meetings are using. With the manufacturer's name and the type number of the equipment I could make more useful comments. How was this equipment chosen? Was it specifically intended for blended meetings? Did the meetings have the advice of a specialist?

For the vision part of the link it is desirable that the whole of the in-person meeting is visible. That demands more than one camera. Two cameras could be placed at opposite corners of the room. In some cases, two cameras 90° apart would work. The two views should ideally be on the screen one above the other, the way the two teams in *University Challenge* are shown. I have no idea whether that is feasible on Zoom, but someone could ask them. Zoom ought to give general advice on blended meetings. Has anyone checked?

The sound presents various problems. In Quaker meetings we have the same situation that applies in Parliament, that any speaker from any position in the room must be audible to everyone else. As you know, in YM and other meetings it is usual to have at least one roving microphone. That presents two problems: it takes time to get the microphone to the speaker, and people will start speaking before they receive the microphone. And the microphone built into a video camera will never be satisfactory for use in a large meeting: remember that the cheap cameras that we use are intended to capture someone sitting about two feet away.

An alternative would be to have a sufficient number of microphones permanently installed in optimum locations. In the case of Blackheath MH a microphone at the bottom of each compression strut of the roof would probably do very well, though there is a little issue of rain running down the struts. I have never listened to the hearing loop, but that relies on a single microphone: if one does the job, then four should be a significant improvement. I am thinking particularly of winter, when the heaters contribute significant background noise. Another possibility is to use several wireless microphones, so that everyone has a microphone close by. Wireless microphones are a bit of nuisance to manage, because you have to remember to switch them off to save the battery.

Multiple microphones would have to go through a mixer. Perhaps the equipment that runs the hearing loop could do that job, but I would have to check. Otherwise, mixers are not necessarily expensive (under £50) -- our requirements are relatively simple.

In Parliament, sound is relayed via large numbers of small loudspeakers built into the seat backs. That means that each loudspeaker only needs to deliver a low sound level, so there is no risk of feedback. In a blended meeting there is no need for the sound *from inside the MH* to be relayed via loudspeakers in the MH, so again there is no feedback problem. However, there is a possibility that people connected via Zoom could experience feedback in a blended meeting (not an all-Zoom meeting). That is something else to ask existing users: have they encountered the problem? I can't guess whether Zoom's software could avoid the problem. You may recall that strange effects result when one person connects to a Zoom meeting via two routes, e.g. a laptop and a smartphone.

## **2023.11.23 A Friend managing a blended meeting for Scotland General Meeting in hired premises in Perth.**

A blended meeting of Scotland GM was held in hired premises (Perth Library, with the help of library staff)

1. We had two cameras in the room, controlled individually by two computers. We had three microphones daisy-chained placed at:
  - a) Clerk's table
  - b) In front of the first (of four) rows
  - c) In front of the third row.

We also had a big screen connected to one of the computers that Friends at the venue could see.

2. Manual control ensured that:
  - a) Friends at the venue had good view of those online and
  - b) Friends online had good view of those speaking at the venue.

When someone was speaking online, they were spotlighted so that people both online and at the venue had a good view of them. When someone was speaking at the venue, the camera was manually zoomed toward them, and online Friends were spotlighted, while the view at the venue was in the gallery mode (as it could be an odd feeling for Friends in the venue to see themselves on a big screen so I switched to gallery mode in the venue while retaining the spotlight for online Friends).

Glasgow and Edinburgh MHs have an automatic zoom feature on their cameras which makes things a lot easier.

## **2023.11.24 A Friend from N Scotland AM**

In North Scotland AM we only have one Meeting House, Aberdeen. They have got themselves set up with:

- Full fibre internet connection with Wifi (and Ethernet if a wired connection is required)
- Laptop
- Projector which gives a good picture on our white walls
- Bluetooth conference microphone

I am not sure that this makes it more marketable as a venue - there are other things that make the MH less than ideal for many groups. But just having good internet is a start; groups can bring their own lap-top if they want to do small blended sessions.

The conference microphone still works better if it is taken to those speaking, rather than leaving it in the middle of the room. An alternative might be several microphones hanging from the ceiling.

A camera that turns to face the person talking would be better than the camera on the laptop or a fixed-point camera. I think Edinburgh Central Meeting has something like that, possibly also General Meeting for Scotland.

## **2023.11.27 A Friend from west of Scotland**

Within my LM we are giving much thought to how we hold our blended meetings and are writing a paper to reflect our considerations, not just of the technical aspects but also the spiritual side of it and the language we use. (You may have seen my letter in the Friend asking that we consider not using in person to refer to people in the room)

On the technology side of things my local Community Centre invested in a proper AV set up with camera, wireless microphones and a 65" TV screen with a PC attached. The system is well used by our meeting and many other groups at the Centre, not just for Zoom meetings but also PowerPoint presentations by visiting speakers and DVD presentations by the Young Farmers Club. It is much easier than a data projector and screen and gives a far better picture, especially for daytime meetings. So I do recommend a proper set up. Ours is a mobile set up as the Centre has multiple rooms so we can wheel it into whichever room the group is using.

For a smaller, portable set up I have a pair of room microphones (Anker Powerconf S500 Speakerphone) which I can take to wherever the AM is. I recommend having 4 laptops to provide sufficient cameras so Friends' faces can be seen clearly when they are speaking. One for the clerk (which I use to write the minutes on), one for the assistant clerk (to monitor Friends on Zoom), one for speakers in the room (so they know where to stand so they can face the Friends in the room and see the Friends on screen at the same time), and one to show a view of Friends in the room. We have found this arrangement very successful. All laptops are muted and have their speakers turned off and the room microphones and speakers cover the audio side. This saves having to mute and unmute as different people speak and keeps the operation very simple.

## **2023.11.30 A Friend from Brighton LM**

I'm writing from Brighton Friends Meeting House which is a large and busy building - open six days and three evenings a week for hiring to outside groups (mostly voluntary and public sector), and a home to a strong and consistent Quaker community.

During the Covid period we did a lot of research into suitable technical solutions for blended meetings and have emerged with equipment that is still used for all sorts of blended meetings and is being developed as we continue to improve our effectiveness.

You can see the sort of equipment that was initially purchased at this link:

<https://www.brightonfriendsmeetinghouse.co.uk/our-rooms/refreshments-equipment-availability>.

The most expensive items were the large flat screen computer monitor (approx £800 three years ago) and the two mini-computers (approx £500 including windows software). We also use independent camera/ microphones which came in at £150 each. When using the large screen TV in our main meeting room we also have a separate boundary mic (£280) which can be positioned in the centre of the room or at a point where people can get up and walk to when speaking. Some groups have brought their own camera/microphones and move them around the room when someone is speaking. Needless to say we have needed to be flexible in terms of different layouts, numbers of people and the formality of events.



With the smaller set up shown in the link, we have used a normal TV screen attached to a computer in one of our smaller rooms. This is attached to a wall and not available elsewhere, but we do have another screen of the same size which can be set up in any room. There is a spare camera/microphone for that screen, which is available on the understanding that people bring their own laptop and attach everything to that.

With all the extra tech, we have had to improve our internet and wifi availability - coming into the building and being boosted around the premises. This is quite expensive, as we are now providing business standard internet at 300mbs, boosted around the building by about £300 worth of modem boosters. For this service we are using Zen broadband, which is an ethical organisation and provides outstanding service - way better than the usual leading broadband companies.

We can also say that we haven't achieved a perfect set up and we are always looking to improve.

We believe that zoom meetings and blended meetings are here to stay - we conduct a lot of our Quaker meetings (of all descriptions) on Zoom and/or blended and they are extremely useful for saving on excess travel, or for people who can't travel.

## **2023.11.30 A Friend from Manchester and Warrington Area Meeting**

In our Area Meeting, we have established a schedule of 4 blended area meetings a year, 2 (winter) on-line only and one in-person only. This means we can use the good technology we have in our biggest meeting house (Manchester) for 2 of our blended meetings and minimise the extra work needed for the blended experience to be acceptable. We have a number of microphone/speakers which on occasion we find it necessary to pass about a room so Friends joining remotely can hear people. Camera angles are sometimes sub-optimal - especially in our smaller meetings where in general we make do with a couple of laptops and a TV screen or projector for people at home.

### **Additional points gleaned from the various responses**

Some comments refer to Friends joining on zoom from home

- If participants on zoom find it difficult to hear, try using headphones
- Check the devices and internet connections of those experiencing difficulty joining on zoom
- There is always someone on zoom who cannot hear well
- Having a large screen makes blended meetings inclusive for those who cannot come in person and can enable a conversation session that includes both participants in the room and those on zoom, possibly with a video to start off the discussion.

Other comments on the strengths and pitfalls of blended and/or zoom meetings:

- Many people, especially in rural areas, can only join in person occasionally or never, due to health and mobility problems, distance, the time needed to travel etc – those unable to get to meeting value the opportunity and the connection
- For blended MfWfB the ideal arrangement may be to have all the Friends physically attending facing the camera

- However, if all Friends face the screen this is more like a standard church
- People on zoom may feel unable to engage with spoken ministry if they cannot see/hear the person concerned
- One meeting reported finding a way to connect to the induction loop microphone system, so Friends do not have to step close to a mike to give ministry.
- Comments that blended meetings depend on a single person (or one or two people) with the technical knowledge, whose role is taken for granted, but for whom it may become a burden
- Govan LM uses a dual wireless microphone system (e.g. Rode Wireless II Go, cost about £220), Syncho G2 (under £200), both via a USBA connection on a laptop, and a 120 degree wide angle camera on a tripod, together with a normal webcam to catch the people in the room.
- Friends in the room quite often need to be reminded to speak up.

NB so far there are no comments about meetings' experience using external expert advisers (almost all seem to have identified someone in the LM with the necessary technical knowhow/skills), and few about whether new tenants/hirers have been attracted by the availability of rooms with the suitable equipment, including whether they need technical support from the LM and what they are prepared to pay.