Area 8 Hybrid Setup and Operation

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1. Introduction

Area 8 has a long history of pre-pandemic usage of basic Zoom capabilities for Information Technology (IT) Committee meetings, Area Committee Meetings (ACMs), and occasional workshops. These pre-pandemic setups required only basic equipment--a laptop computer, camera with microphone, a speaker, etc.--and remote attendance was limited. With the shutdown of in-person meetings during the COVID pandemic, use of Zoom became ubiquitous. When in person meetings began to resume, often with limited in-person attendance requirements, it became necessary to accommodate more and more remote attendees and the equipment needs and operational requirements increased. Even though the in-person restrictions have been lifted, hybrid events have continued. The main types of events that Area 8 supports are:

A.   Area Assemblies

Area Assemblies also include a GSR School. These events can have over 100 in-person attendees and dozens of remote attendees. These events require two separate setups: The main all-day assembly for all the in-person and remote attendees and separate setup for the GSR School, which is usually in a separate room, lasts only an hour, and has a much smaller number of attendees.

It should be kept in mind that remote attendees at Area Assemblies vary greatly in their technical understanding. Some may require additional help with procedures such as muting/unmuting, polls, breakout rooms, etc.

The main assembly requires a large room, up to 30 tables, and therefore requires a great deal of equipment: cameras, projector, multiple microphones, speakers, etc. In addition, operation of the equipment becomes critical. Audio feedback, polls and voting, breakout rooms, etc. must all be carefully managed.

The GSR school requires the same basic equipment, but since it is usually in a smaller room with a smaller number of attendees and is a more straightforward presentation with attendee participation limited to questions for the presenter, the requirements are less demanding.

Adding to the complications is the fact that Area Assemblies are not held at the same venue. Sometimes we have utilized the venue before, but often it is brand new to us and we are starting completely from scratch. Some venues have sophisticated audio and video capabilities, as well as knowledgeable IT personnel, which make our requirements much simpler while others only provide a large, bare room.

B.   ACMs

ACMs can have 50 or more in person attendees and 20 or more remote attendees. The basic equipment requirements to an ACM are the same as for the Area Assemblies, but the smaller number of attendees, the smaller room, and the familiarity of most attendees with the ACM procedures make the setup and operation less arduous. The setup is also greatly simplified in that it is always held at the same venue so once a good setup is established and documented it can be reused.

C.   Workshops and Other Events

Our area supports, when possible, other types of events. These vary greatly in the number of attendees and are rarely at familiar venues. There is no cookie cutter approach to these events. Some can be extremely small and require little more than a single laptop while others may rival the Area Assembly in size and complexity. It is important that we be involved in the planning for these events as early as possible.

2. Area Equipment

The Area 8 Audio and Video equipment is kept in our area storage locker. A typical equipment suite is shown in Figure 1.

Figure 1. Typical Equipment Suite

Available equipment includes:
- One or more laptop computers.
- Two Audio Mixers.
- A minimum of three wired microphones with stands.
- One Wireless Microphone.
- Two large speakers for connection to a mixer.
- Two smaller speakers with a connection to a laptop audio out jack.
- One or more USB cameras including a tripod.
- Two video projectors with one stand.
- Many cables of varying length for connecting all of the different audio and video equipment.
- Power strips and extension cords for power connections.

Often equipment deficiencies pop up that require supplementing by borrowing from the venue or from area members. If possible, those doing setup should bring extra power strips and/or extension cords—distance from power outlets can vary greatly. If this is an ongoing deficiency, then it should be documented so that funding can be obtained to correct the deficiency.

3. Venue Requirements

While it is the host's responsibility to select a venue with adequate room, available tables, etc. the technical capabilities of the venue should also be kept in mind to facilitate hybrid meeting requirements. Items to keep in mind include:
- Internet connection. We have in the past run assemblies with the only available internet service being a cellular hotspot on a member's phone. This can be done, but poor cellular service and the lack of bandwidth severely impacts the hybrid experience. A solid ethernet service with at least a moderate speed is a great asset.
- Power outlets. A large venue, such as a gym, with only a few outlets can make setup difficult.
- Built in audio system. Not required but a great asset. A solid audio system with strategically placed speakers and a connection for our mixer greatly enhances the audio for the on-site participants.
- Built in video system. Again, not required but a great asset. A built-in project with a large built in screen or a large screen digital display greatly helps the setup and the experience for attendees. Connection should be either from a HDMI cable or the network.

4. Zoom Setup and Operation

Zoom setup and operation for a hybrid meeting is rarely as simple as just starting a meeting and letting others join in. In addition to deciding who will be starting the

meeting, it is important beforehand to decide coordinate with the Area Chair, Delegate, and others to coordinate in advance any special setup or operational requirements for the event.

A.   Before the Event.

At least the following should be addressed with the host, Area Officers, and presenters:

- Meeting id and password for distribution to attendees.
- Who will be starting the meeting?
- What are the translation requirements and who will be translating?
- What are the polling requirements?
- What are the breakout room requirements?
- How will sharing of documents be handled?
- Who will be managing the audio and video?
- Who should be assigned as co-hosts?
- Any particular security requirements and who will be monitoring?
- Will additional people be available during the event to assist in managing polling, breakout rooms, etc.?

B.   At the Start of the Event.

- The meeting should be started at least a half hour before the event time.
- Assign co-hosts.
- Assign the translators.
- Remind the on-line attendees to remain muted except when actually speaking.
- A quick reminder for on-line attendees on how to mute/unmute, raise their hand, respond to a poll, etc.

C.   During the Event

- Control the audio. Microphones and the online attendee's audio feed can be switched on and off from the mixer (Figure 2). Microphone gain and speaker volume can be controlled from the mixer and should be monitored carefully to avoid feedback.
- Monitor the online attendees. When a hand is raised and the moderator calls on them, enable their audio and set their volume for clarity and to avoid feedback (Figure 3).
- Assist presenters. If the presenter is using their own computer, make sure that screen sharing is enabled. If the presenter has provided their material to the zoom operator, then display it by means of screen share on their cue.
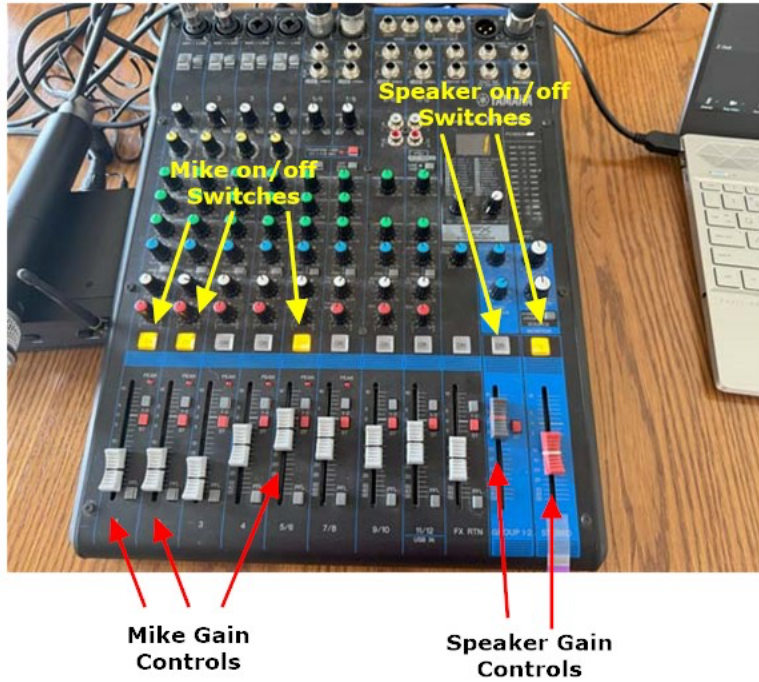- Assist the moderators with polls, breakout rooms, etc.

Figure 2. Mike Control From Mixer

Figure 3. Zoom Audio Control From Mixer

5. Area Assembly and GSR School Setup

The Assembly and GSR school are the most demanding setups, particularly since it demands two separate setups. Since the GSR School usually runs from 8:00 AM until 9:00 AM and the Assembly itself doesn't start until 9:15 AM, it is possible, but not desirable to move some equipment from the GSR School to the main Assembly. It is by far better so keep each configuration entirely separate if possible. Moving equipment with only a 15-minute gap can result in delays and confusion.

A.   Assembly Setup

1.   Required Equipment

- One or More laptop computers
- Audio mixer
- Two floor microphones with stands
- One moderator microphone with stand
- Two speakers if venue sound system is not available. Speaker stands might also be required depending on the room configuration.
- At least one camera and tripod.
- Projector with stand if venue video is not available.
- Screen if nothing else is available. This is a critical item on the walkthrough.
- Speaker, microphone, USB and HDMI cables for component connections.
- Power strips and extension cords. As many as possible.

2.   Connections

- Laptop computer to mixer via USB cable. (Figure 4 & Figure 5)
- Laptop computer to projector or venue video system via HDMI cable. (Figure 4)
- Laptop computer to camera via USB cable. (Figure 4)
- Mixer to speakers or venue audio system via audio cables.
- Floor microphones to mixer via audio cables. (Figure 5)
- Moderator microphone to mixer via audio cable. (Figure 5)
- Optional. If the wireless microphone is used wireless receiver to mixer via audio cable. (Figure 5)
- Power to all components via power strips and extension cords.
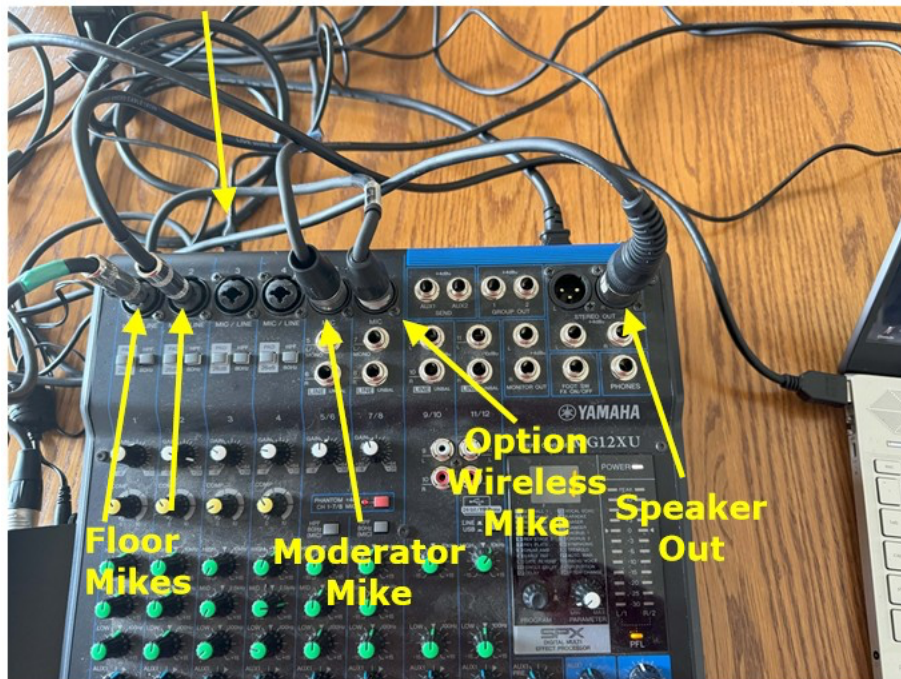
Figure 4. Laptop Connections (typical)

Figure 5. Mixer Connections

B.   GSR School Setup

The setup for GSR school can vary widely depending on the venue, but the same basic audio and video capabilities are needed. The size of the room and number of attendees is usually much smaller and component capabilities are usually less and some components may not be needed. For

example, if the room is small enough it may not be necessary to provide speakers so that in person attendees can hear the moderator but only speakers so that the on-line attendees may be heard.

1.   Required Equipment

- One or more laptop computers.
- At least one camera and tripod.
- At least one microphone. This may be one of the area microphones that requires use of the mixer or may be another type of USB microphone.
- At least one speaker if the room does not have a built-in audio system. This may be a large speaker that requires the mixer or smaller speakers that connect directly to the laptop.
- Projector if the room does not have a built-in video system.
- Cables to support the required components.
- Power strips and extension cords.

2.   Connections

- Laptop computer to mixer via USB cable if the mixer will be used in this configuration.
- Laptop computer to projector or venue video system via HDMI cable.
- Laptop computer to camera via USB cable.
- Speakers to laptop audio out jack if venue audio system is not available. Alternatively, if the mixer is used, mixer to speakers or venue audio system via audio cables.
- Moderator microphone to computer via USB cable if the mixer is not used. Moderator microphone to mixer via audio cable if the mixer is used.
- Optional. If the wireless microphone is used wireless receiver to mixer via audio cable.
- Power to all components via power strips and extension cords.

6. ACM Setup

The ACM setup is easier in that the room is smaller, fewer attendees, and the event is always at the same location, so we already know what the set up requirements are. The setup is basically a subset of the ACM configuration.

A.   Required Equipment

- One or More laptop computer
- Audio mixer

- One floor microphone with stand
- One moderator microphone with stand
- One large speaker
- At least one camera and tripod
- Projector with stand. A built-in screen is available.
- Speaker, microphone, USB and HDMI cables for component connections.
- Power strips and extension cords.

B.   Connections

- Laptop computer to mixer via USB cable.
- Laptop computer to projector via HDMI cable.
- Laptop computer to camera via USB cable.
- Mixer to speaker via audio cables.
- Floor microphone to mixer via audio cable.
- Moderator microphone to mixer via audio cable.
- Optional. If the wireless microphone is used wireless receiver to mixer via audio cable.
- Power to all components via power strips and extension cords.

7. Other Events

Area 8 supports many other kinds of events: workshops, committee meeting, ad hoc meetings of all kinds. Some are so small that they could get by with just the camera and speakers on a laptop. Some can be as large as the Area Assembly and require a full suite of equipment. Since there are such of variety of events in a variety of venues it is not practical to try to provide setup instructions for each event. However, a review of the setup instructions for the above events should provide, with prior planning, a basic, starting configuration for almost any event.