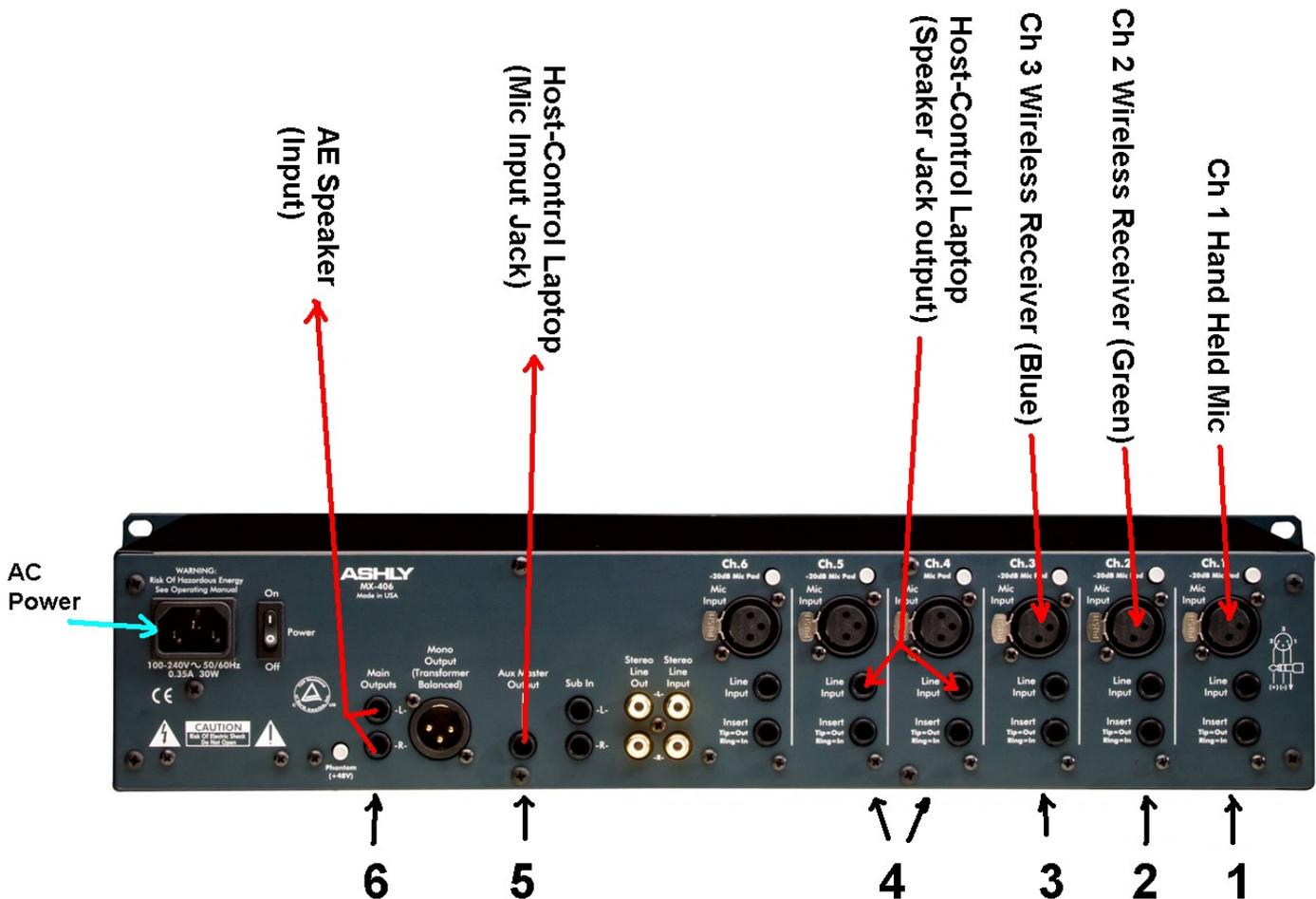


From Kelly Keys, 7/1/2023:

Based on the diagram(s) that you sent me on how the current system using a Rolls and Shure mixer, I put together a diagram of how the MX-406 will work as a replacement and how all the other equipment would logically work with it. I've included notes and hints. See below. I also included the graphic files separately in case you needed to blow them up for more detail.

**Basic setup:** Arrows denote direction of signal flow.



**1, 2,3** Channels 1-3 will make use of the Balanced XLR ports.

**4** Channels 4 & 5 are fed the signal from the Host Computer via un-balanced 1/4" cables.

**5** Aux master out will send a mix back to the Host Computer. This mix will include only Channels 1, 2 and 3. Do not include the signals received by channels 4 & 5. Otherwise, you will likely cause a loop back resulting in feedback or echo.

**6** L/R main out feed a mix to the AE speakers. This mix will be comprised of all 5 input channels.

Notes:

A) No need to use Phantom Power for any inputs unless you use a condenser mic at some later point in time.

Phantom Power will not damage a regular microphone. However, a user may get a little shock if their mouth touches a microphone. Best to leave Phantom Power off in the mean time.

B) Each input has a -20dB pad button. Only use this if your input signal is too strong for that channel.

C) The “Mono Output” located next to the L/R outputs is a composite signal comprised of both if the L and R signals. Benefit is that it is a balanced output for use if the AE speakers or any other speaker you may use, has/have a balanced input. Otherwise, it will not be in use.

D)

## Basic operation:



1 | 2 | 3 | 4 | Ch 6 Not used | 5 | 6 | Not used

**1, 2, 3** These channels are for the Hand held and Wireless systems. Each channel has a “clip” indicator for if letting you know that it is being overdriven.

A good starting point for the Treble/Bass Eg with human voices is to subtract a little of the Bass frequency and boost the Treble frequency just a tad or to taste.

From the manual: Input Gain

This three position switch sets the operating level of the microphone and line input preamp The corresponding switch values -20db, -40dB, and -60dB refer not to the actual gain, but rather to the expected nominal input signal strength

Best signal to noise ratio is obtained with higher gain settings It is therefore desirable to set the gain control as high as possible while still leaving 20dB of headroom for signal peaks Line level inputs (1/4" jack) will likely use a setting of -20dB, while mic inputs generally require a setting of -40dB for close mic applications, and -60dB for quieter signals If a channel's clip LED is blinking, first turn down that channel's level control If the clip LED is still flashing, turn down the input gain

Set the Aux to about midway on each channel. If any of the “remote” audience complains that the source for that channel is too soft or to loud, adjust accordingly for that particular channel. This signal is fed to the Aux Master (5). Adjustments to the Aux mix do not affect the main mix. Aux is a completely independent mix from the L/R main Outputs mix (6).

For example, let’s say that Paul is in Channel 1, Bill is in Channel 2 and Mike is in channel 3. During use, remote viewers complain that they hear Bill and Mike fine, but Paul is hard to hear. Solution if to check and make sure the input gain and Level were set properly. If that is fine, then boost the Channel 1 Aux for Pauls’ signal feed going to the Aux.

If remote viewers complain that Paul, Bill and Mike are all too soft, boost all three input channel Aux controls to about 75%. If still too soft, then boost the Master Aux (5) until everyone is satisfied.

Keep all “Pan” controls at 12 noon. As a side note, you can use “Pan” to create a third mix, but that is for a different discussion and only if you need a third mix.

4 is the Left and Right line level signal feeds from the Host Computer. This, of course, is the signal/mix of the remote audience to communicate with the Zoom Room. It is important that the Aux controls for these two channels be turned all the way down. Otherwise, you will likely experience feedback or echo as the computer reintroduces its’ own signal back into the mix.

-20 should be the usual input gain setting. However, if the signal is too low, have the operator turn it down in the software. If this is not possible, detent the -20dB pad button on the rear for that channel(s). Adjust Level controls accordingly. Both Levels will likely have identical settings.

5 Aux Master signal is the summation of all the input channel Aux’s. Adjustments to this control will only affect the Aux mix going to the remote viewers. If too loud, turn it down and vice-versa. 75% is a good starting point. If too loud for remote viewers, adjust the zoom software. Otherwise, turn this control down. Good chance you will end up with it at 50%.

6 Main Outputs Left and Right are fed each input channels signal which is routed through the Pan control. Thus, the reason all input channel Pan Controls should be set at 12 noon. The VU meters will reflect the signal strength of the mix these two outputs are fed from each input channel. The output signal(s) are fed to the AE speakers.

Side notes:

\*) The Master/phones Output control is fed by the Main Outputs Left and Right. It serves no purpose unless you connect a speaker /amp system to the Mono Output XLR on the rear. In your case, you will not be using this aspect.

Hope this helps!