

House of Worship

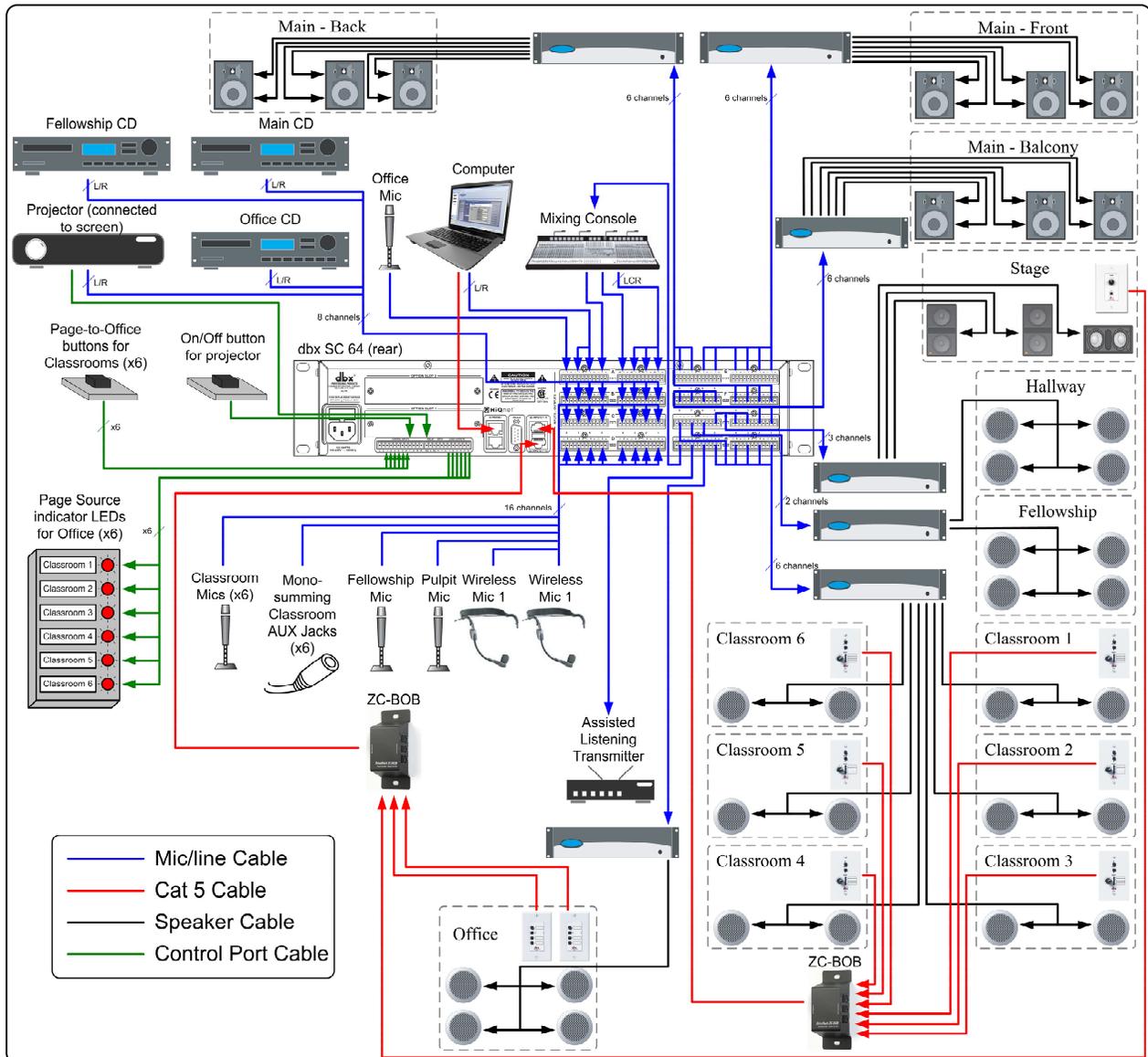
SC 32 / SC 64

Many of the components of a House of Worship are seen in theaters, concert venues, education environments and conference centers. Flexibility to fit not only one of these needs but indeed all the needs at the same time for different zones is a must for an audio processor. In this guide the following needs will be covered:

- The ability to use the system as a standalone with or without a console and an operator
- Tuning EQ, crossover, alignment delay, limiting, and Advanced Feedback Suppression (AFS™) for the LCR main sanctuary sound system and stage monitors
- Assisted listening devices with Auto Gain Control (AGC) and PEQ
- The ability to interface with a projector and associated screen
- Local microphones, local sound reinforcement, and local source selection in each classroom
- Two-way paging between the office and each classroom



Supporting live stage shows, presentations and multimedia is a task well suited to the SC devices, which can easily handle complex routing and/or mixing from a variety of inputs. In this case a single SC 64 device with a 32 x 32 input/output configuration is used.



The multitude of microphones and instruments used for large performances is sent to the FOH mixing console. The console's LCR and monitor outputs are then sent to the SC 64 before finally reaching the power amplifiers that feed the main LCR speakers and stage monitors. This configuration allows the sound engineer to take advantage of the SC 64's vast array of powerful signal processing. A mix of sanctuary microphones and sources also feed the SC 64 independently of the mixing console. This is useful for meetings and rehearsals when a sound engineer is not necessary or available. For such circumstances, a ZC-2 located near the stage allows for convenient input gain control for all three sanctuary microphones. A feed from the SC 64 to the mixing console also allows the sound engineer to monitor any input on the SC 64 using the "Master Building Mixer" Custom Control Panel within HiQnet System Architect™ (see accompanying "House of Worship" venue file). This same Custom Control Panel also allows source selection and precise volume control for each zone in the building that does not offer local source selection. For even more advanced control options, this or any other Custom Control Panel can easily be added to a tablet PC with a wireless network connection, giving installers the ability to tune speakers or adjust zone volume while walking through the building.

The main sanctuary sound system consists of ten discrete speaker locations: one subwoofer in front of the stage at the center position, one row of LCR biamped speakers in front of the stage on the main floor, a second row of LCR biamped speakers further back on the main floor, and a third row of LCR biamped speakers on the balcony. The combination of tuning EQ, alignment delay, and crossovers for each speaker location gives the main sanctuary sound system a high degree of intelligibility despite the large size of the room. dbx' PeakStopPlus® Limiting—which combines the smoothness of an RMS limiter with the dependability of a "brick wall" limiter—provides for speaker protection at each output channel. For superior gain-before-feedback performance, dbx' powerful AFS™ processing module is added as an Input Insert to all microphones located in the main sanctuary. Assisted listening via the SC 64 provides for an enhanced experience for each listener. AGC and PEQ allows for a consistent sound that is tailored perfectly to the assisted listening equipment.

Another strength of the SC 32 and 64 is integration with external gear—a task almost always demanded in professional installations. In this case, the SC 64 is used to control a projector and screen. A latching button is connected to one of the Logic Inputs on the back of the SC, and the Relay Output is connected to the projector. The Projector is connected to the screen, which automatically lowers/raises as the projector turns on/off. The GPIO Wizard in HiQnet System Architect™ allows the installer to quickly associate this series of controls such that a press of the button powers the projector on (or off), which then lowers (or raises) the screen. Installing the button in an easy to reach location away from the control room (where the projector itself is located) provides added convenience that users will surely appreciate. In this case, the button is installed near the stage.

The SC 64 is also used to create a two-way intercom system between the office and the six individual classrooms. Using two ZC-7s, the user in the office can page each classroom selectively or all at once. Each classroom can respond directly to the office by pressing a local momentary button connected to one of the Control Input Ports. In addition to triggering a Panel Preset that routes the classroom's microphone to the office, each switch also activates one of six corresponding LEDs (connected to the Logic Output Ports) in the office. These LEDs give individuals in the office a convenient visual indication of the page's source (see the "Page Source Indicator LEDs for Office" illustration within the input/output diagram on the reverse side of this document). To further facilitate effective communication between the office and classrooms, incoming pages duck local program material by 20dB (as configured within the Priority Mix Controls window).

Each classroom's microphone can also be used for local sound reinforcement. A 1/8" mono-summing auxiliary jack located in each classroom provides a flexible solution for sharing media during classes. In addition to controlling the input gain of the microphone, a ZC-8 in each classroom allows for source selection between the microphone, the aux jack, a mix of the microphone and the aux jack (which is ducked 6dB by the microphone), or no source.

Due to the building's large size, two ZC-BOBs are used to allow up to 1000 feet of distance between the control room (where the SC and ZC-BOBs are located) and each ZC.

