Church Sound Common Problem FAQ

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"Good Source + Good Mic Technique + Good System = Good Sound" Bill Gibson

Problem	Possible Cause	Proposed Solution
Loudness		
Too Loud Overall	Sound Pressure Level higher than the 95dB Sound Pressure Level around 90dB lasting for too long.	Use a Sound Pressure Meter to check Turn down the master volume Add compressor/limiter to the Master Use a distributed Sound System Establish Sound Monitor Team
	Sound operator located in wrong position Unable to hear clearly and unable to determine the level	Relocate the sound control area Sound operator relocated
	Wrong monitor reference level	Perform a sound check and sound alignment test Re-align the monitor speakers level with reference to house speaker level
	Musicians or speaker did not hear themselves	Add fold back speakers but beware of feedback problem
Too Soft	Sound Pressure Level too low	Boost the master volume
	Amplifier power is too low	Replace the amplifier or Use bridge amplifier
	Sound Operator location	Relocate the sound control area
	Inexperienced Operator	Training Practice

Problem	Possible Cause	Proposed Solution
Front is too loud and Rear is too soft	Speakers are being paired up Limited budget Inefficient Sound System	Split the amplifier and speaker channels for individual adjustment Add more amplifiers channels and speakers
Not enough signal level for the mixer for certain instruments	Impedance matching problem	Use DI Box
Level of Speaker or singer too fluctuate	Personal character or style	Use Compressor/Limiter and set the threshold
Balance		
Bad Internal balance	Inexperienced operator Slow response to Not musical enough Not familiar with the system	Training Attend rehearsal Practice Active listening
	Insufficient mic for a large group	Study the specification of various mics May need to add more mics
Tone Quality		
Too Annoying	Frequency range of 3 to 4KHz is particularly loud	Use a Real Time analyser check Use EQ to confirm and cut the 3 to 4KHz range
Too muddy	Frequency range around 250 to 500Hz is too much	Use a Real Time analyser check Use EQ to confirm and cut the 250Hz to 500Hz range
Too much bass	Frequency range around 125Hz is too much	Use a Real Time analyser check Use EQ to confirm and cut around 125Hz range
Too dull	Frequency range around 4 to 10KHz is insufficient or being masked by other frequencies.	Use a Real Time analyser check Use EQ to confirm and boost 4KHz to 10KHz range

Problem	Possible Cause	Proposed Solution
Too much “p” ,” t” sound	Mic is too close to the mouth or too on the axis	Put the mic further from the mouth or Change the mic angle and mic position
Level and tone colour fluctuate for 1 mic	Off axis mic attenuation	Use wider angle pick up mic or Use 2 mic instead of one
Level and tone colour fluctuate for 2 mics	Comb filtering	Adjust the distances between 2 mics Adjust the panning of the 2 mics
Sound too thin for directional mic	Mic too far away Off axis attenuation	Move the mic closer to the sound source
Too hollow	Mic is too far from the sound source	Put the mic closer to the sound source
Coloured Sound or Unreal Sound	Bad miking position Bad choice of mic	Do experiments on different positions Test using another mic
Reverberation		
Too dry	Acoustical problem	Add artificial reverb to the program materials
Too wet	Acoustical problem	Use a distributed sound system
	Mic Linkage Mic too far from the source that pick up other sound sources Another sound source is loud enough for this mic to pick up	Put the mic closer to your source

Problem	Possible Cause	Proposed Solution
Feedback		
Occasional Feedback	Mic is too close to or in front of the Loudspeaker	Put the mic further from the loudspeaker or Change the mic angle and mic position
	Bad choice of mic	
	Mic gain is too high	Lower the mic gain
	Pull up the wrong fader	Study the program materials Learn the music Improve the communication To be more pro-active
Constant Feedback	Structural acoustical problem Some frequency bands is being reinforced Standing wave Problematic reflection	Use spectrum analysis or computer software to check Then use EQ to correct the problem
Sound Image		
Localization	Loudspeaker closed to the congregation sounding louder than the main house system	Apply different delay settings to the loudspeakers of various zone
Noise		
Low frequency hum or buzz	Ground loop problem (different electrical potential at different grounding point) Unclean	The quickest but most dangerous solution is to disconnect the ground pin of the power plug. (ground lift may cause electric shock) The safest way is to disconnect the shield cable at recipient side. Use filtered power

Problem	Possible Cause	Proposed Solution
Hiss and other unwanted noise	Noise jam into long domestic unbalanced signal cable	Use a balance cable and professional gears. Use low pass filter to reduce
Wireless mic noise	Receiver signal being interrupted	Move the receiver closer to the transmitter without obstacle in the transmission path