Cinema Sound **Checklist**

✓ *Spend on things that matter most*. Don't waste money on expensive "audiophile" speaker cable. Parallel cable is a bad choice for long speaker runs due to high capacitance. Twisted pair cable is best.

✓ *Pay attention to details.* Wire it correctly and check everything, then check again. Make sure left goes to left, High goes to High, and Low goes to Low. Check polarity on everything.

✓ *Check all switch settings* on speakers and amplifiers, if applicable. Don't use tri-amp mode on a speaker wired for bi-amp. Don't engage amplifier high pass filters at 30 Hz for a subwoofer.

✓ With QSC DataPort systems, *make sure the DCA amp gain controls are all the way up*. Use only QSC DataPort cables. Cheap VGA cables can blow internal amp fuses by shorting ground pins together.

✓ *Make sure you have used the correct DSP presets* for every amp and speaker in the room. If you are not using a complete QSC solution, get the crossover right before touching a graphic EQ. Large amounts of graphic EQ adjustment is a sign that something is wrong.

✓ *Fix Problems at the source.* Use the right tools. Fix reflections with acoustic treatment. Match level at crossover points with gain, not eq. Smooth out the dip at the crossover with alignment delay. Even out HF and LF response with bulk EQ (bass and treble) and shelf filters, not graphic EQ.

✓ *Listen and measure* for the exceptions before starting to EQ. Turn amps on one at a time and listen to every speaker in the room individually.

✓ *Compare L-C-R screen channel RTA measurements.* If Left and Right screen channels look the same and center is really off, find out why. Big differences may indicate other mistakes in the set-up and installation. Start back at the beginning and check everything again if you have to.

✓ *EQ as little as possible*. A few parametric filters are better than using a bunch of graphic EQ bands. Flatten peaks, but avoid boosting dips. Let the bass rise and don't obsess over the flatness of the "X-Curve" line on the RTA.

✓ *Use a mic multiplexor*. If one mic shows far different results from the others, try moving it.

✓ *Set sub levels with the RTA* using the "+10 dB of in band gain" method. Never set them with an SPL meter. Make sure your measurement system is calibrated, it is the only way to get the levels right.

✓ *Check for rattles and buzzes* in the room. Sweeping a sine wave through the subs will help you locate problems like light fixtures, fire extinguisher cabinets and screen frames that need to be tightened, shimmed, or duct taped.

✓ *Make sure the automation is correctly controlling the processor.* Having a trailer and feature preset will reduce volume-related complaints.

✓ *Check everything.* Listen to every speaker. Don't leave until it is right.

✓ *Train cinema staff* on proper operation, including how to adjust level, how to change presets, etc.

✓ *Play familiar test content* when you are finished with calibration. Listen to every speaker. Walk around the room. Sit in extreme seats.