Bench checklist, part 1

Setup and first sweep

Work through the steps in order. Use a PDF viewer that supports forms or print this page.

Set up the hardware

- [ ] **Gather the equipment.**
  Have REW, the 711 coupler and mic, a steady holder, the IEM and tips, a headphone output and a compatible mic input.

- [ ] **Connect both signal paths.**
  Plug the IEM into headphone out and the coupler mic into mic in. If they share a headset jack, use a compatible splitter and check whether the mic needs bias power.

- [ ] **Start with a plain signal path.**
  Turn off playback EQ, loudness effects, automatic gain and mic noise suppression. Check that the computer sees the intended playback and recording devices.

- [ ] **Mount the earpiece and check the seal.**
  Note the side and tip model and size. Seal gently, keep the tip opening and vents clear, steady the holder and leave the cable slack.

Set up REW and run the first sweep

- [ ] **Choose the devices, channels and sample rate.**
  In Preferences, open Soundcard and select the IEM output and coupler mic input. Set output L or R for the side and the actual mic channel separately. Use 44.1 or 48 kHz consistently.

- [ ] **Open Measure and name the run.**
  Choose SPL, Sweep, From REW and Single measurement. For the example use 20-20,000 Hz, 128k, −12 dBFS and No timing reference. Confirm Input and Output.

- [ ] **Start low and run Check levels.**
  With the IEM in the coupler, start playback volume and mic gain low. In Measure, choose Check levels. Fix missing input before raising volume.

- [ ] **Start the sweep and inspect it.**
  Check for clipping or a stopped sweep. Confirm REW is recording the coupler mic. Repeat the same run and compare the two traces before reseating.

- [ ] **Repeat once without moving the earpiece.**
  Save both runs. If they disagree, look for movement, background noise or routing trouble. Use the troubleshooting method before swapping multiple parts.

Bench checklist, part 2

Repeat, save, compare and verify

Work through the steps in order. Use a PDF viewer that supports forms or print this page.

Repeat and save the left and right sweeps

- [ ] **Reseat each side three to five times.**
  Remove and reinsert between runs. Switch playback L or R for each side. Keep the mic channel, levels and other settings fixed. Save valid and failed runs.

- [ ] **Check that both sides sit at a similar depth.**
  If both sides show a clear depth-sensitive peak around 7-10 kHz, compare its frequency. About 8 kHz is a starting point. Keep the seal and preserve the measured dB levels.

- [ ] **Choose representative, clean left and right sweeps.**
  Choose a trace near the middle of the clean repeats for each side. Keep the individual runs. Exclude leaks, wrong inputs and clipping from averages.

- [ ] **Save the REW session and export L and R.**
  Save the .mdat and separate frequency-response text files in Measurements. Keep baseline levels unchanged. Store filters in EQ and predicted or remeasured results in Responses.

Compare with another sweep or verify EQ if needed

- [ ] **Compare the same setup details first.**
  Confirm physical earpiece or model variant, side, tip, depth, rig, drive device and EQ state. Even the same earpiece can measure differently on another bench.

- [ ] **Use equivalent graphs.**
  Use the same scale and smoothing and compare raw with raw. Align copies near 1 kHz for shape. Keep the baseline levels and use calibrated rigs for absolute SPL comparisons.

- [ ] **Check whether the difference survives a reseat.**
  A narrow moving peak or dip is fit-sensitive. Use extra care around 8-10 kHz and treat details above 10 kHz as rough comparisons.

- [ ] **If making EQ, check the inputs and headroom.**
  Import the uncorrected left and right files. Choose a target for the rig, avoid chasing deep dips that move, and apply each correction once with enough preamp headroom.

- [ ] **If verifying EQ, sweep through the active preset.**
  Confirm the test tone passes through the EQ. Remeasure with the same fit and settings and save the verified result separately from the prediction.