Transfer Function Measurement Configurations

Figure 1

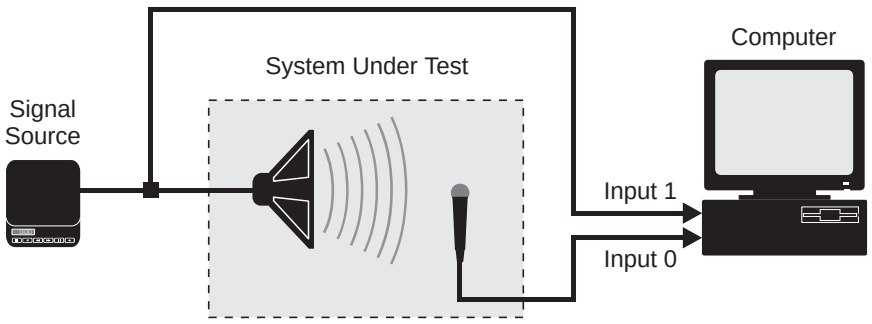

Figure 1: The basic schematic for a transfer function measurement. Notice that the signal is ***not*** generated by the computer. Typically a CD player or noise generator is used as an external signal source. The computer receives two signals:

- a *reference* signal — also being used to stimulate the system under test *and*
- a *measurement* signal — the output of the system under test

Figure 2

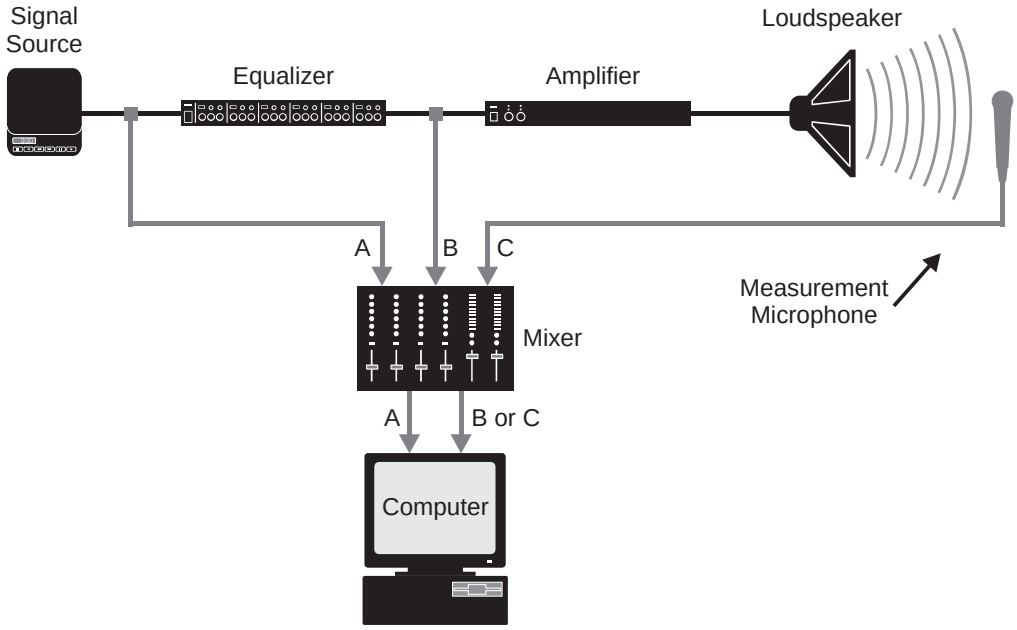

Figure 2: Schematic of transfer function measurement configuration that includes a measurement mixer. The measurement system mixer is used to switch between *measurement* signal sources and adjust relative input levels for maximum signal-to-noise and ease of comparison.

In the *Figure 2* configuration, the *reference* signal (labeled ***A***) can be compared to either the output of the equalizer (labeled ***B***) *or* the signal arriving at the microphone (labeled ***C***). Notice that the output of the equalizer has been split, (typically accomplished using a Y-cable). This allows changes to the EQ settings to be seen *and heard* as they are made.

Figure 3

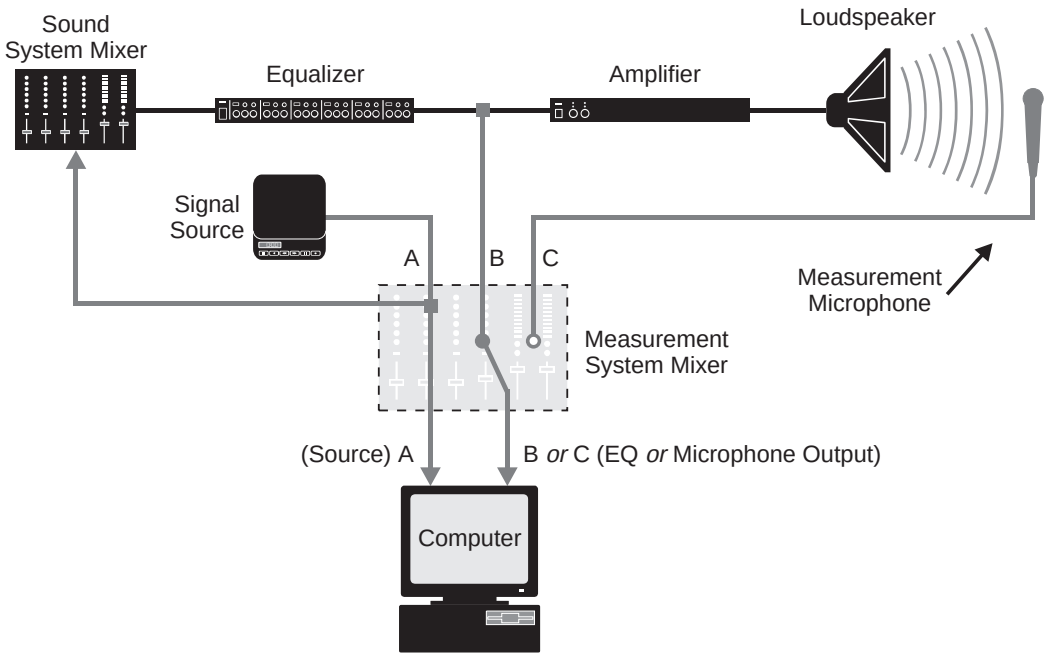

Figure 3: Typical "real-world" Transfer Function setup. The configuration shown above splits the *reference* signal *inside* the measurement mixer. The *reference* signal is sent to the computer on one of the mixer's main outputs and out to the sound system on an auxilliary bus. This arrangement allows both the *reference* and *measurement* signal levels to be controlled directly from the measurement system mixer.

Note: Most large systems include a house mixer. Assuming the house console itself is not in question, it is often possible to utilize unused input channels and auxilliary busses on the house mixer as the measurement system's input signal switcher — eliminating the need for a separate measurement mixer.

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