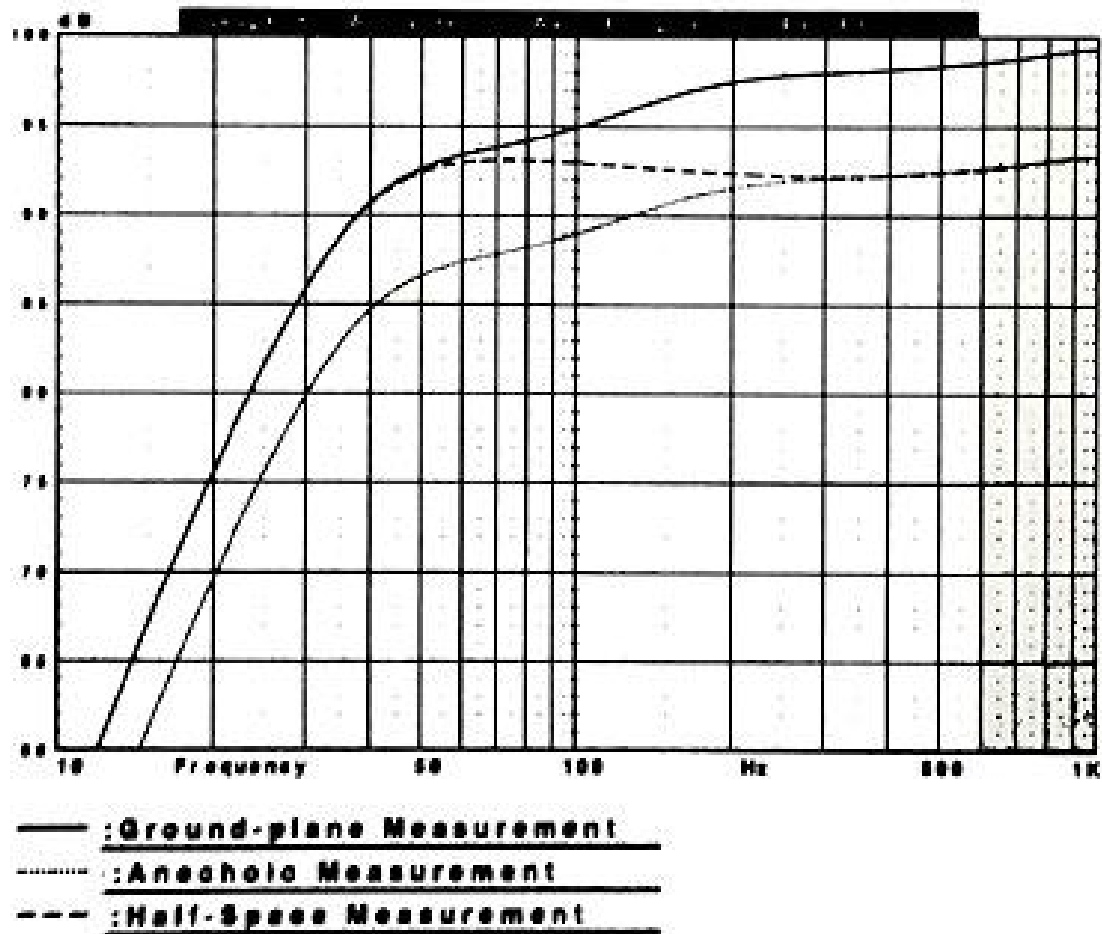




The key to explaining the differences between the three domains is in understanding the nature of the 'step' response.

When sound radiates from a driver cone which has no boundary or baffle, the radiation is hemispherical up to the frequency when driver directivity starts to narrow.

If the driver is mounted on a baffle the baffle acts as a reflector, increasing the amount of energy in a given direction. The 'step' occurs when the baffle starts to act as a sound reflector.

When the baffle is made infinitely large, the 'step' occurs at all frequencies, hence the flat response shape in fig. 2. The increase causes a doubling over of the sound pressure, or **6dB** of gain over the free field measurement.

When the radiating surface is limited to only the enclosure baffle (anechoic and ground-plane measurements), the 'step' occurs at whatever frequency is determined by the area of the baffle, as the response transforms from 4π to 2π .

The response 'step' begins on the anechoic measurement at round 75 Hz (**see fig. 2**) and levels out two octaves above at about 300 Hz, rising at 3dB/octave.