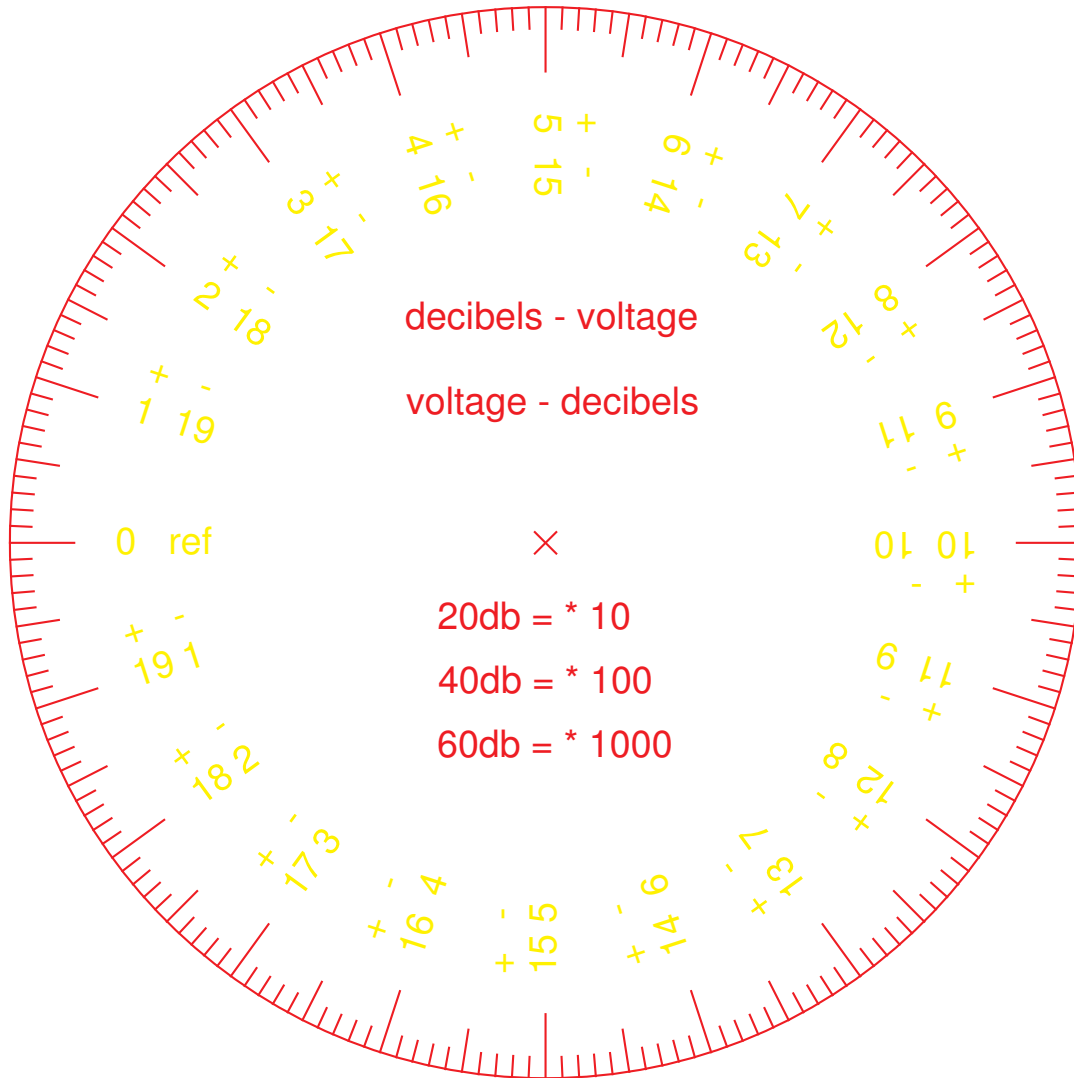
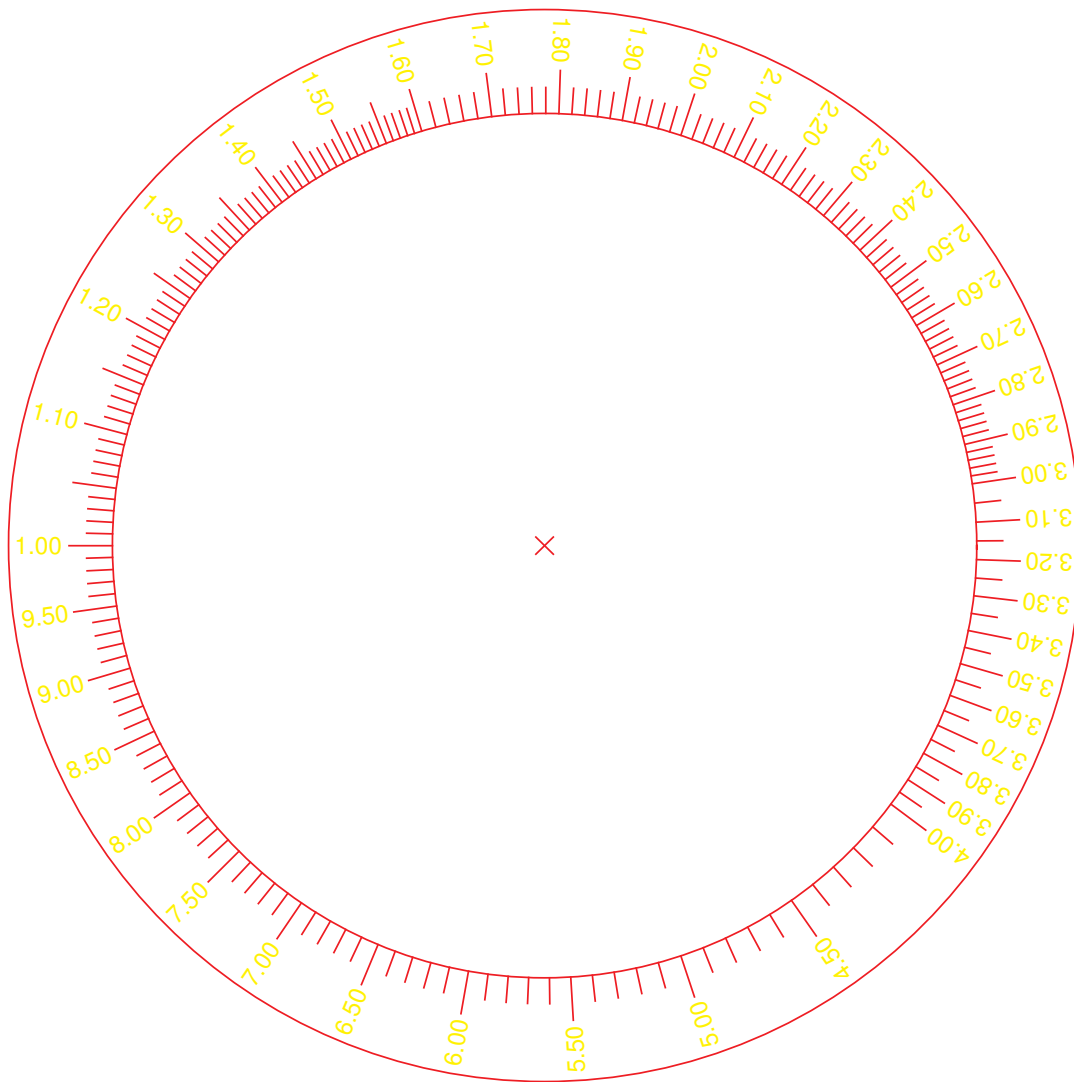


Decibel Calculations

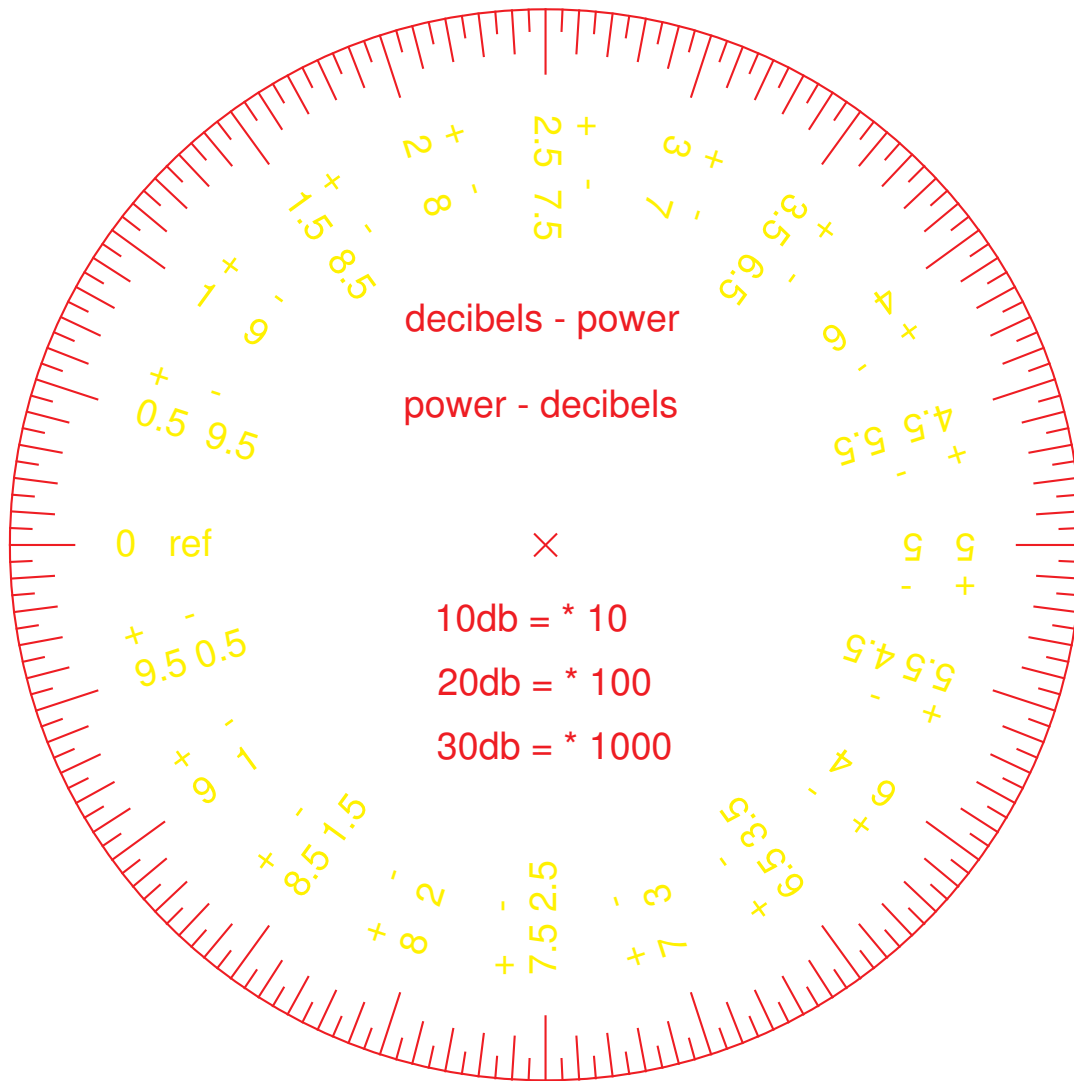
DB Wheel Voltage Inner



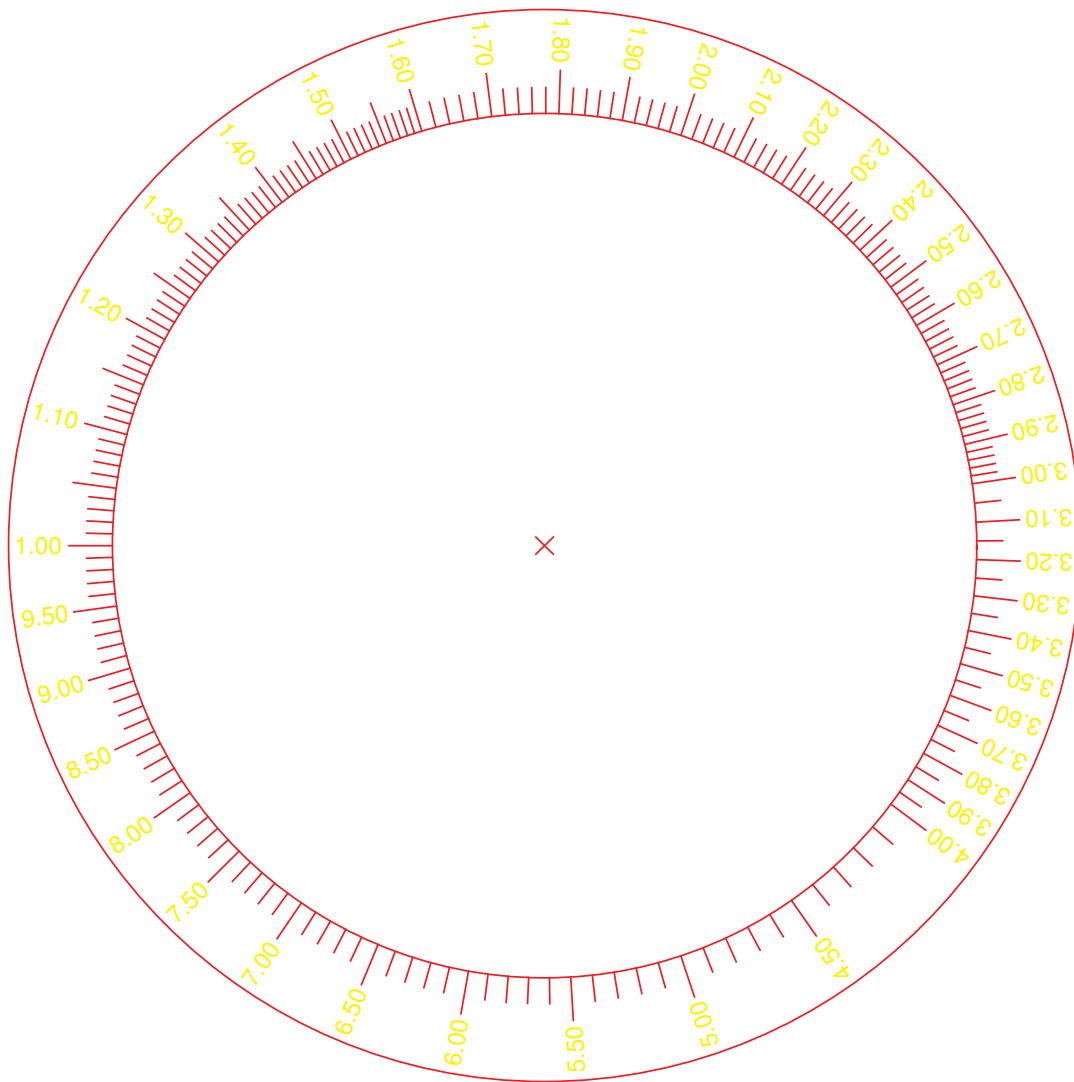
DB Wheel Voltage Outer



DB Wheel Power Inner



DB Wheel Power Outer



Calculations

For **Voltage** Decibel calculations, the voltage increase (or decrease) is:

$$20 \text{ Log}(\text{base}10) v1/v2$$

for example:

Voltage x2 = 6dB

Voltage x10 = 20dB

Voltage x100 = 40dB

Voltage x 1000 = 60dB etc

For **Power** Decibel calculations, the power increase (or decrease) is:

$$10 \text{ Log}(\text{base}10) p1/p2$$

for example:

Power x2 = 3dB

Power x10 = 10dB

Power x100 = 20dB

Power x 1000 = 30dB etc

These can be read from the appropriate wheels. Cut them out carefully. Use a drawing pin (or similar) in the centre(s).

Example,

Place the "0 ref" (inner wheel) level with your measurement (say, 1 volt on outer ring).

6 dB up on this (inner) is 2 volts (outer).

6 dB down on this (inner) is 0.5 volts (outer), move decimal point.

They're reasonably accurate (as good as my cad system will allow) but not absolute. If you want better, use a spreadsheet!