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Gain and resistance values specified in module file.
 keeED1:
 GK501-4 = .6600E-3
 RK501-2 = .122E+5

PARAMETERS:

GK .6600E-3
 RK .122E+5



Knowles ED Analog Standard Response

VARY RESISTORS FOR DAMPING:
 Units: CGS ohms

Undamped:
 RK503 = .300E+3
 RK508 = .180E+6

Type 1:
 RK503 = .120E+4

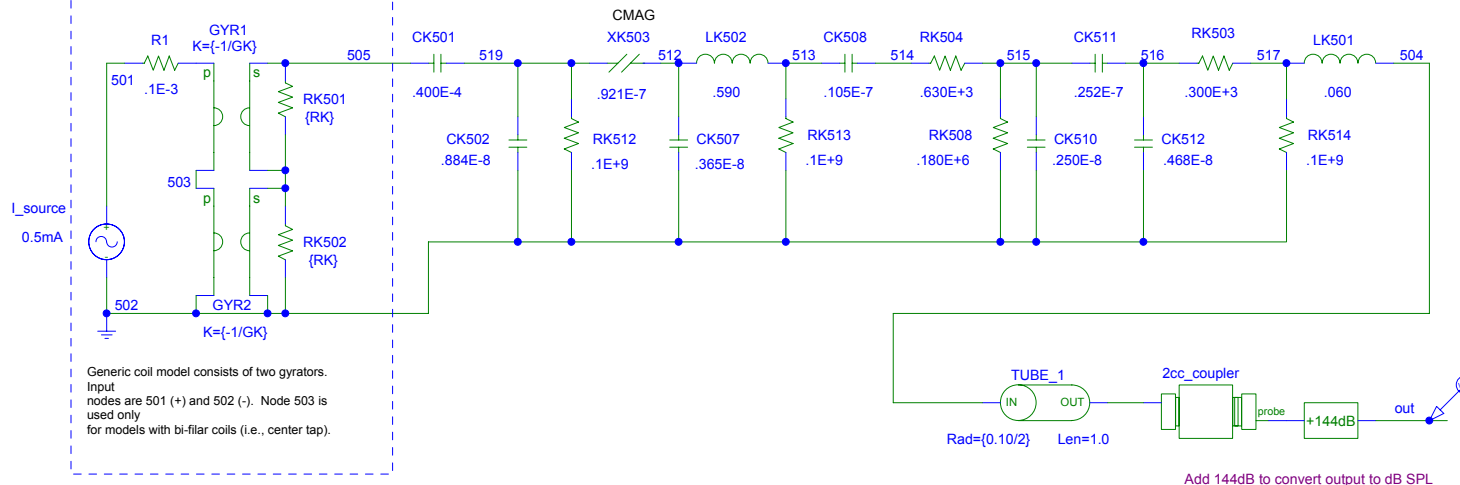
Type 2:
 RK503 = .120E+4
 RK508 = .400E+5

Type 3:
 RK508 = .400E+5

Ferrofluid
 RK504 = .630E+3 (undamped)
 RK504 = .165E+4 (FED-i06, 6dB peak)
 RK504 = .290E+4 (FED-i04, 4dB peak)
 RK504 = .455E+4 (FED-i02, 2dB peak)

Module File: keeED1

Module File: kerED1



Generic coil model consists of two gyrators.
 Input nodes are 501 (+) and 502 (-). Node 503 is used only for models with bi-filar coils (i.e., center tap).

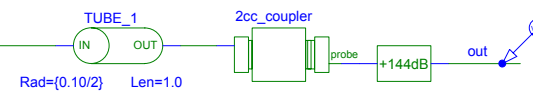
GYRATOR MODEL
 Gyrator between node pairs (1,2) and (3,4) having a gyrator constant K

```
.SUBCKT GYR-X 1 2 3 4 PARAMS:K=1
R1 1 2 9E+12
R2 3 4 9E+12
R3 2 3 9E+12
G1 1 2 VALUE = {V(3,4)/K}
G2 3 4 VALUE = {-V(1,2)/K}
.ENDS
```

*CMAG models a capacitive impedance in series with a resistor to create a 45 degree phase angle at all frequencies. The net impedance varies as 1 over the square root of frequency.

*CMAG is the capacitor's value at 1 kHz.
 *Also called VRMAG, VCMAG in older models

```
.SUBCKT CMAG-X 1 2 PARAMS:CMAG = 1
R1 1 2 1E+12
G1 1 2 FREQ {(,707*V(1,2)*(CMAG*6282)) =
+ (20,-17,45)
+ (20000,13,45)
.ENDS
```



Add 144dB to convert output to dB SPL

Tubing and coupler specified in Knowles Sheet 2.1
 [10mm x 1.0mm ID]

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