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Gain and resistance values specified in module file.  
GK501-504 = GK  
RK501-502 = FK



## Knowles HC Analog Standard Response

### PARAMETERS:

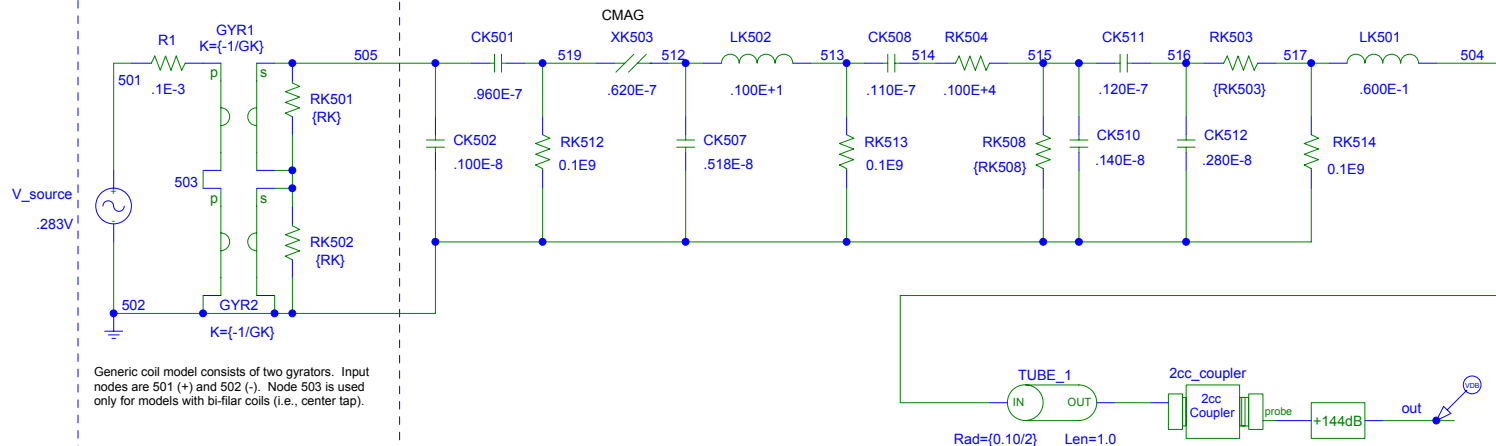
RK503 .800E+3  
RK508 .200E+6

### PARAMETERS:

GK .110E-2  
RK .139E+5

Module File: keeHC10

Module File: kerHC1



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
```

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

Add 144dB to convert output to dB SPL

Knowles Electronics LLC  
1151 Maplewood Drive  
Itasca, IL 60143  
(630) 250-5100

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