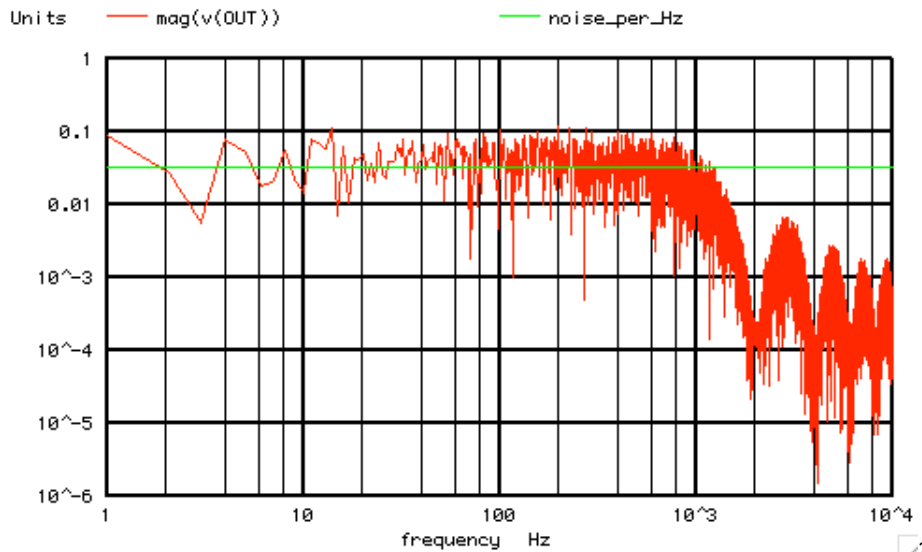


Each sample point is 0.5msec apart (1KHz)  
 The transient is run at 50u sec(10kHz) rate  
 The output is interpolated rather than sinc functions.  
 Harmonics (not Shown)are present in the spectrum.



1\_Vrms Noise spread our over 1000 Bins is  
 reduced by a factor of  $1/\sqrt{1000} = 32\text{mV\_peak}$   
 Each bin has a 1Hz bandwidth.  
 Nyquist(-3db) is at 1KHz  
 Sample period is 1S (1Hz)

======"rndsrc" \_File\_Needs\_To\_Be\_In\_MacSpice\_Folder=====

```
* rndsrc -- by CDHW -- writes a gaussian random voltage source
*
* Note: see also the frontend command 'compose'
*
```

```
.control
begin
  setplot new
  set outfile = "PWL_File.inc"
  if ($argc = 2)
    let step = $argv[1]
    let duration = $argv[2]
  else
    echo "usage - rndsrc timestep duration"
    echo "effect - gaussian source written to file -- $outfile"
    unset outfile
    goto done
  endif
```

```
set parity = true
let time = 0
echo "VpwlT OUT 0 PWL(" > $outfile
```

```
while time < duration
  let time = time + step
  if $parity
    let X1 = (1+rnd(32768))/32769
    let X2 = rnd(32768)/32768*8*atan(1)
    let Vnoise = sqrt(-2*ln(X1))*cos(X2)
    set parity = false
  else
    let Vnoise = sqrt(-2*ln(X1))*sin(X2)
    set parity = true
  endif
  echo "+ $&time $&Vnoise" >> $outfile
end
echo "+ )" >> $outfile
unset outfile parity
label done
destroy
end
```

```
echo "PWL_File.inc has been created in the MacSpice folder"
```

```
.endc
```