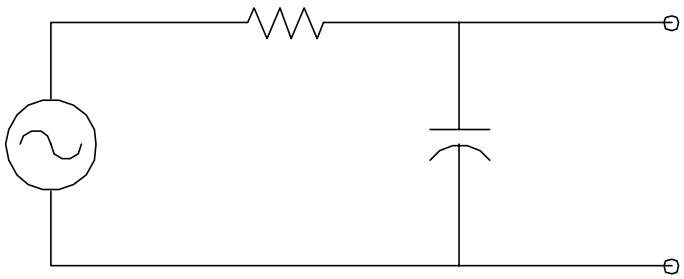
6.002 Demo# 20
Displays the Transfer Function of RC Lowpass and Highpass **Agarwal Fall 00**
Lectures 16 and 17

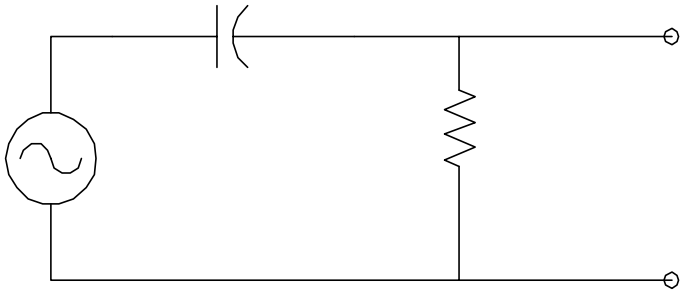
Purpose:

This demonstration shows the magnitude and phase plots for an RC lowpass filter on the Dynamic Signal Analyzer. Also allow students to hear the sine tone.

Steps:
Part 1: Low Pass

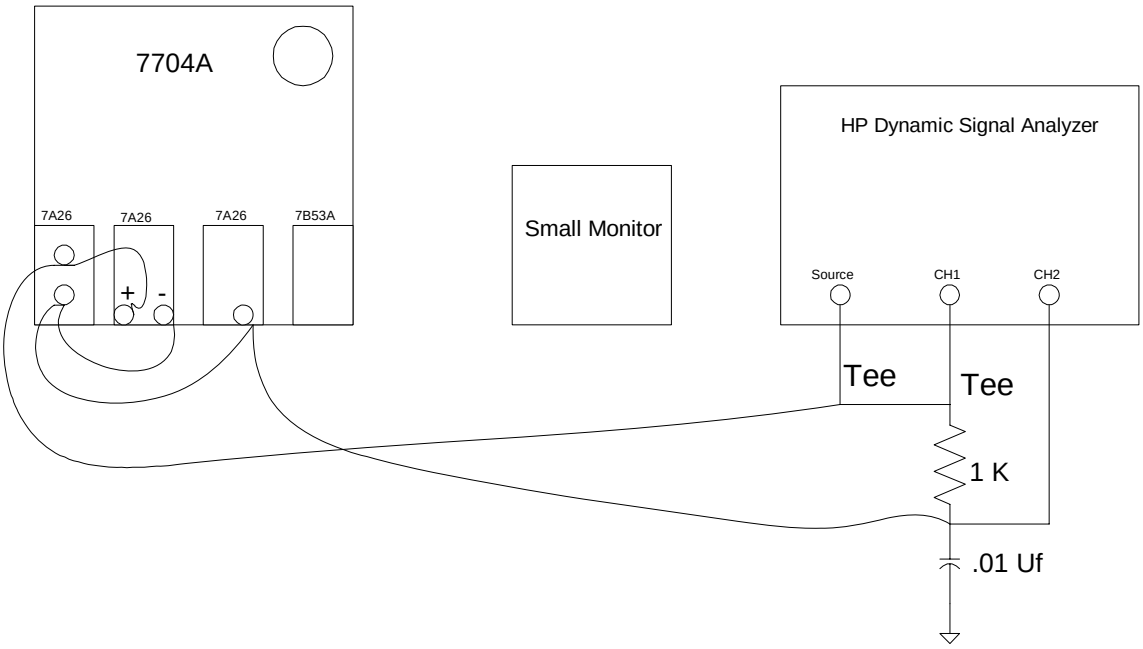


Part 2: High Pass



Description: Low Pass / HighPass RC

1. **Press Power On (Wait)**
2. **Press Preset**
3. **Press Pause/Cont.**
4. **Press Select Meas.**
5. **Press Freq Resp.**
6. **Press Meas. Mode**
7. **Press Log. Res.**
8. **Press Swept Sine**
9. **Press Source**
10. **Press Source Level**
11. **Press 1**
12. **Press V**
13. **Press Range**
14. **Press Auto 1 Up + Down**
15. **Press Auto 2 Up + Down**
16. **Press Coord.**
17. **Press Mag (dB)**
18. **Press Scale**
19. **Press X FIXD Scale**
20. **Press .01,100**
21. **Press kHz**
22. **Press 0, -38 (use –42 for 10K and 0.022)**
23. **Press dB**
24. **Press B**
25. **Press Coord.**
26. **Press Phase**
27. **Press Scale**
28. **Press X Fixd Scale**
29. **Press .01, 100**
30. **Press kHz**
31. **Press Y Fixd Scale**
32. **Press 0,-90 (High Pass 0, 90)**
33. **Press Degree**
34. **Press Freq.**
35. **Press Start Freq.**
36. **Press 10**
37. **Press Hz**
38. **Press Stop Freq.**
39. **Press 100**
40. **Press kHz**
41. **Press Sweep Rate**
42. **Press 5**
43. **Press Sec/Dec**
44. **Press Start**



Equipment:
Fader System and (2) cameras
Small monitor
HP Dynamic Signal Analyzer
(2) RC Circuit of 1 K, .01 uF
(kept in 6.002 demo drawer)
(2) BNC-Clip, BNC Tees
Amplifier and speaker

Scope Settings:
Vert CH1 = 2v/Div, Display CHOP
Vert CH2 = 2v/Div
Vert Mode = Left
Vert CH3 & CH4 = .5v/Div
Horiz. CH2 = .2v/Div Display CH2

Trig Amplifier
Mode = Norm
Coupling = DC
Source = Int
Sweep= 10 ms/Div