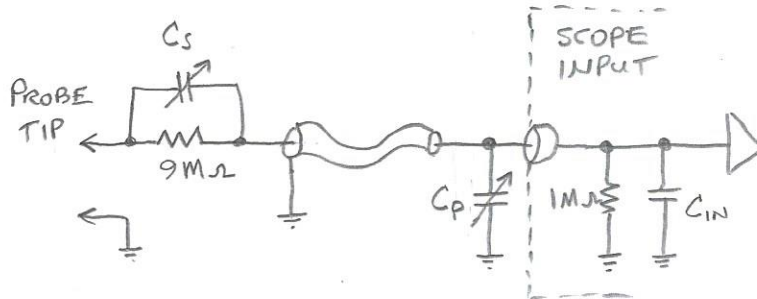


# THE IMPORTANCE OF PROPER OSCILLOSCOPE PROBE COMPENSATION



- AMPLITUDE OF SIGNALS CAN BE WRONG

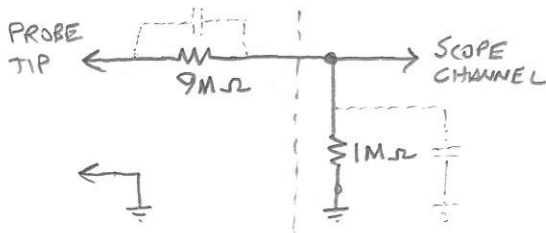
- SIGNALS CAN BE DISTORTED

- WE WANT

$$\frac{C_s}{C_{in} + C_p} = \frac{1M}{9M}$$

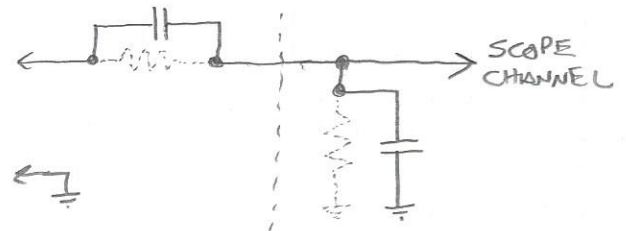
BELOW FEW KHz...

- ATTENUATION DOMINATED BY RESISTOR VALUES



ABOVE FEW KHz...

- ATTENUATION DOMINATED BY CAPACITANCE VALUES



$X_C$  of 15pF is 1MΩ  
AT JUST 10KHz!

- AND REMEMBER...

... A VERY HIGH BW PROBE ISN'T ALWAYS "BETTER"!

- IT MAY NOT HAVE ENOUGH COMPENSATION RANGE TO MATCH THE LARGER INPUT CAPACITANCE OF A LOW BW SCOPE

- RESULTS IN LOW AMPLITUDE AT HIGHER FREQUENCIES

- ALWAYS - CHECK THE COMPENSATION RANGE OF YOUR PROBES  
- COMPENSATE YOUR PROBES!