

Special Problem II.B-17

You have designed a receiver using **high-side tuning** and an IF of 100MHz.

However, this receiver does **not** have a preselector filter!

You tune your LO to receive a radio station transmitting at 1.0 GHz.

But, there are also several other radio stations in your vicinity, transmitting at these frequencies:

A. 0.05 GHz

F. 0.8 GHz

K. 1.9 GHz

B. 0.1 GHz

G. 0.9 GHz

L. 2.0 GHz

C. 0.2 GHz

H. 1.1 GHz

M. 2.1 GHz

D. 0.6 GHz

I. 1.2 GHz

E. 0.7 GHz

J. 1.3 GHz

Which of these stations will likely cause the detected signal (from the 1.0 GHz station) to be distorted, and **why** (there will be a **different** reason for each station)?

Hint: first determine all frequencies that will likely cause distortion, and then determine which ones are on this list.