Special Problem II.B-20

An engineer is designing a receiver to receive **just one** RF signal.

This signal has a frequency of **120 MHz.**

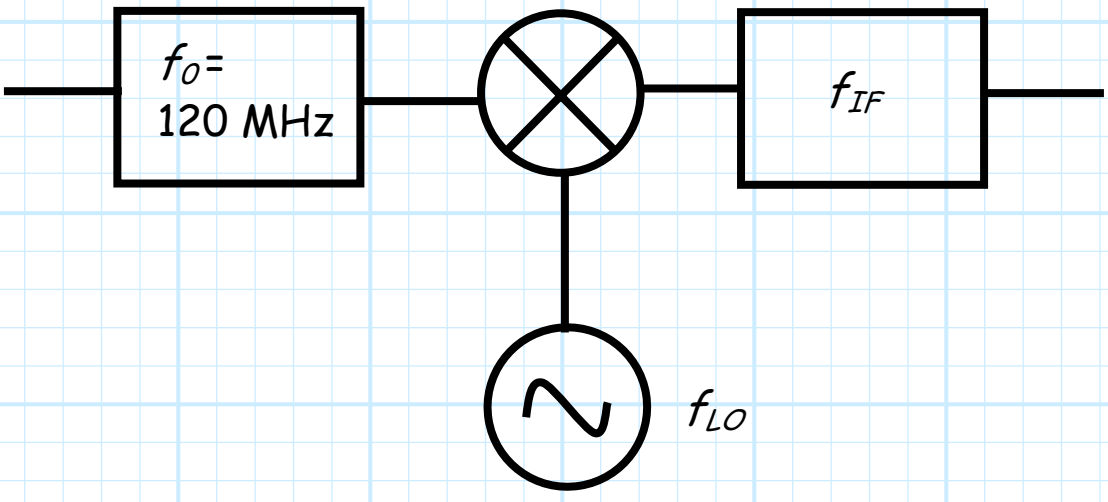
This engineer therefore implements a **narrowband preselector** filter, centered at precisely 120 MHz. This filter allows **only** the desired signal at 120 MHz to pass to the mixer—**all other** signals are rejected (i.e., massively attenuated)!

The engineer plans on using **low side tuning**, and is considering three possible **IF frequencies**:

A. 60 MHz

B. 70 MHz

C. 80 MHz



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Analyze **each** of these three possible Intermediate Frequencies, and determine **which one** of the three the engineer should use.

Clearly state **why** you chose this one IF frequency, and **what was wrong** with the other two IF solutions.