

KNOWLEDGE PROBE 3: Phase-Locked Loops Troubleshooting

Learning Objectives

1. Describe inputs that should be checked when troubleshooting a PLL.
2. Describe outputs that should be checked when troubleshooting a PLL.

1. What key input to the PLL should be tested when troubleshooting?
 - a. Loop filter
 - b. Reference input
 - c. Set point
 - d. VCO
2. What output should be checked when testing a PLL?
 - a. Divider
 - b. Loop filter
 - c. Phase detector
 - d. VCO
3. What could be wrong if a PLL output is at its freerunning frequency and not the design frequency?
 - a. Bad VCO
 - b. Divider set to wrong value
 - c. Open loop filter
 - d. Reference input outside the capture range
4. One technique for better evaluating each PLL circuit is to
 - a. Apply a DC voltage to the reference input
 - b. Open the feedback loop
 - c. Rapidly change the divide ratio
 - d. Replace the chip