Band Switching Voltage Controlled Oscillators

This note describes how additional tuning bandwidth can be obtained by band switching two VCOs with a TTL compatible input.

Circuit Operation (Figure 1) can be described as follows:

**Input High:** Q1 is forward biased allowing the devices collector voltage to approach 0v. This in turn forward biases Q2, switching VCO1 on. Q3 and Q4 remain off (in cutoff) keeping VCO2 off.

**Input Low:** Q1 is off and the devices positive collector voltage turns Q2 off (VCO1 is therefore off) and Q4 on. As a result, Q3 is forward biased allowing VCO2 to turn on.

**Figure 1: Schematic Drawing**

**Figure 2: Typical Output Circuitry Layout: MINI Package VCO**
(Not drawn to scale)

**Notes:**
1. Component values listed for operation at 1 GHz.
2. Transistors are general switching type.

For additional information refer to the following Z-COMM application notes:
**AN-101 Mounting & Grounding of VCOs**
**AN-102 Proper Loading of VCOs**