This paper is the second of 2 papers on the title subject.

These papers present theory and typical applications of an EXTREMELY SIMPLE and powerful means for analyzing the steady state performance, including noise, of oscillators. The theory applies to all oscillators, past, present, and future.

Part 1 covered the theory and cited many potential applications of the theory used in conjunction with computer program BPT. This paper covered some specific applications consisting of the following topics:

A. LLator studies for a 100 MHz (Healey) oscillator

1. Data for ZLL (LLator impedance) as a function of component values is presented in graphs. These graphs clearly demonstrate the effect of component variation upon oscillator frequency shift, start up properties, and optimum tuning for maximum oscillator frequency stability.

2. Data for RLL as a function of frequency is presented in a graph. This graph clearly shows the loop gain margin at the desired, overtone, and mode, frequencies and directly evaluates the safety factors of the design.

B. Z configuration study for a 10 MHz (Colpitts) oscillator

1. The manner of using this configuration for setting up the correct circuit conditions for simulating a true closed loop oscillator, with the aid of the theory, is demonstrated.

2. The Zt (f) function for this oscillator is plotted. The relationship between this function and the resonator current noise is demonstrated for a white noise source.

C. N configuration studies for the oscillator of B. and a DXO 10 MHz oscillator.

1. Phase noise plots are given for the two oscillators for white and white + 1/f noise sources. The white noise plots are for evaluating the TFmn (f) functions.

2. The plots clearly show effects, such as f dissymmetry, not previously noted.

3. Comparison of the Colpitts and the DXO oscillator plots shows no significant difference in the low frequency noise (below 10 Hz). However the DXO may have a potentially lower noise floor.

The extensive data, upon which the above plots are based, was obtained using program BPT with an XT computer, guided by the theory of the first paper.