4. <u>**Digital Delay/Echo FX:**</u>
   - **Build Circuits using e.g. Panasonic Bucket-Brigade Charge-Coupled IC's**

5. **Vibrato/Chorus/Flanging FX:**
6. **Tremelo FX:**
7. **Wah-Wah FX:**
8. **Compressors/Expanders/Companders:**
9. **Rotary (Leslie) Speaker/Doppler FX:**
10. **N-Band Equalizers & n-th Order Filters (Bessel, Butterworth, Tschebychev)**
11. **Harmonizer FX:**

12. <u>**Chaotic/Fractal Music Audio FX :**</u>
   - **Chua's Circuit**

13. <u>**Digital Signal Processors (DSP's):**</u>
   - **Non-Linear Response Modeling/Distortion FX**
   - **Digital Delay/Echo FX**
   - **Vibrato/Chorus/Flanging FX**
   - **Tremelo (Amplitude Modulation)**
   - **Wah-Wah FX**
   - **Compressors/Expanders/Companders**
   - **Rotary (Leslie) Speaker/Doppler FX - big fan blades**
   - **Harmonizer FX**

14. <u>**E-Bow/Sustainer Studies:**</u>
   - **Use/Study Effect of E-Bow/Sustainer on regular electric guitars, lap steels..**
   - **Use/Study Effect of E-Bow/Sustainer e.g. on musical saw?**

VIII. Whole-System Experiments:

1. **Frequency Response, Phase-Shift, Tone-Control EQ, Distortion Properties of Favorite/Classic Amplifiers, using Favorite/Classic Electric Guitars.**

2. **Study Acoustical Coupling of Amp Back to Electric Guitar - Nature of Infinite Sustain/Feedback - Coupling via Fundamental and 2nd & 3rd Harmonics. Phasing Issues.**

3. <u>**Real-Time (?) Spice Simulations of Classic Tube Amps:**</u>
   - **Play Guitar $\rightarrow$ PC DAQ $\rightarrow$ Spice Amp Simulation $\rightarrow$ PC DAQ $\rightarrow$ Ref Mon.**