

Contents

Preface	v
Resources	vi
I: Using The 566 Chip	1
1 — General Principles	3
2 — Easy Wide Range Linear VCO	8
3 — Improved Linear VCO	11
4 — Accurate 1V/kHz VCO	13
5 — Easy Exponential VCO	15
6 — Improved Exponential VCO	19
7 — Slick CMOS Interface	23
8 — Novel Square/Triangle Blend Control	24
9 — Triangle Wave Output	25
10 — Sine Wave Output	26
11 — Ultra-Precise Sine Shaper	28
12 — Pulse Width Modulated Output	30
13 — Square Wave and Sub-Octave Outputs	31
14 — Quadrature Square Wave Outputs	33
15 — Quick & Dirty Ramp Wave Output	35
16 — Sophisticated Ramp Converter	37
17 — Adding Hard Sync	39
II: Using The 8038 Chip	41
18 — General Principles	43
19 — Improved Standard Arrangement	52
20 — Easy Wide Range Linear VCO	54
21 — Superior Linear VCO	56
22 — Barebones Exponential VCO	58
23 — Alternative Exponential VCO	60
24 — Triangle Output	63
25 — Sine Output	64
26 — Square, Pulse and Sub-Octave Outputs	67
27 — Easy Ramp Wave Output	69
28 — Precision Ramp Wave Output	70

III: Using The XR-2206 Chip	71
29 — General Principles	73
30 — Easy Wide Range Linear VCO	81
31 — Accurate Linear VCO With Summing Input	83
32 — High Quality Exponential VCO	84
33 — Sine and Triangle Outputs	86
34 — Square/Sub-Octave Blend Control	88
35 — Triangle/Ramp Wave Switch	90
36 — Ramp Wave by Multiplication	92
37 — Top-Notch Ramp Wave Output	94
38 — Cool Alternative to the Ramp Wave	95
39 — Adding Variable Ramp Control	96
40 — High Quality Hard Sync	97
41 — Adding Balanced Modulation	98
Appendices: VCO Test Gear You Can Make	99
A1 — Variable R-Box	101
A2 — Ten-Step Voltage Reference	104
A3 — Audio Frequency Counter	108
Bibliography	117