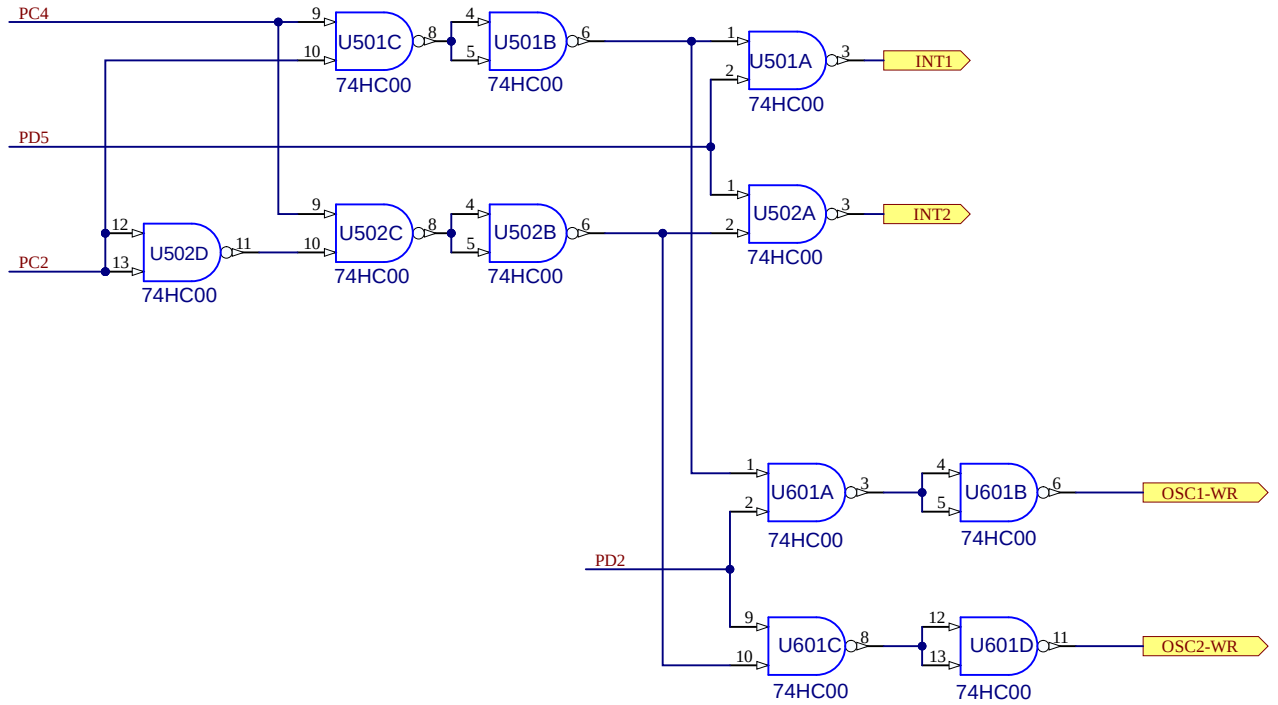

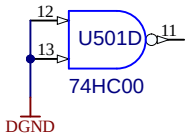

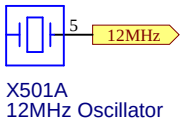

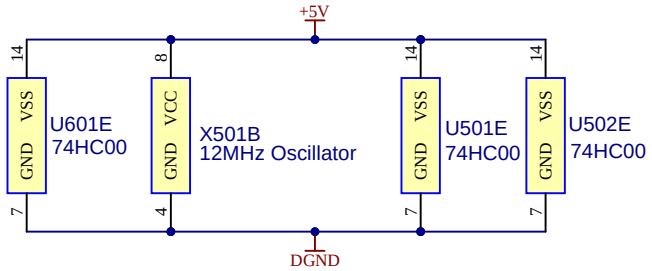

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MonoWave (X) - A Rebuild

Oscillator Controller

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Size	FCSM No.	DWG No.	Rev
A4	12/10/2024	oscctrl.schdoc	V1.2

Scale		Sheet
	Laurie Biddulph	1 of 15

U203A
74HC374

RN201
4 X 10K

RN202
4 X 10K

U204C
74HC00

R207
1K

C203
100nF Cer.

R209
1K

U205A
ATMEGA16/ATMEGA32

X201
16MHz

C201
18pF

C202
18pF

U204A
74HC00

U204B
74HC00

U204D
74HC00

J206
MIDI THRU

R206
220R

R202
220R

Q202
2N3906

R211
220R

R203
4K7

Q201
2N3904

R204
33K

J204
MIDI IN

R201
220R

D201
1N4148

U201
6N138

R205
1K5

R210
15K

U204E
74HC00

U203B
74HC374

U205B
ATMEGA16/ATMEGA32

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MonoWave (X) - A Rebuild

CPU Section

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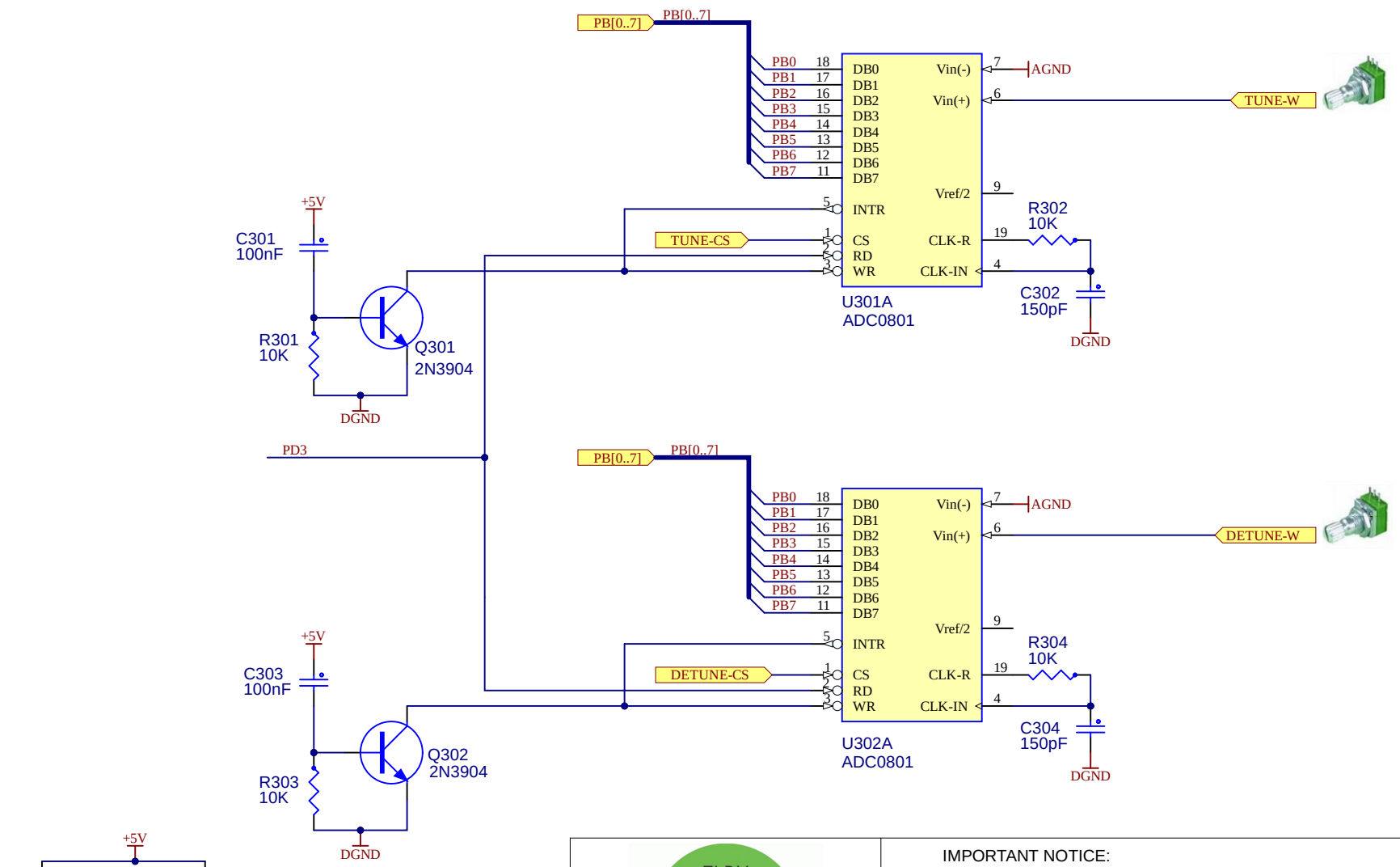
Size	FCSM No.	DWG No.	Rev
A3	12/10/2024	cpu-02.schdoc	V1.2
Scale	Laurie Biddulph	Sheet	2 of 15



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MonoWave (X) - A Rebuild

Tune/Detune DAC Section

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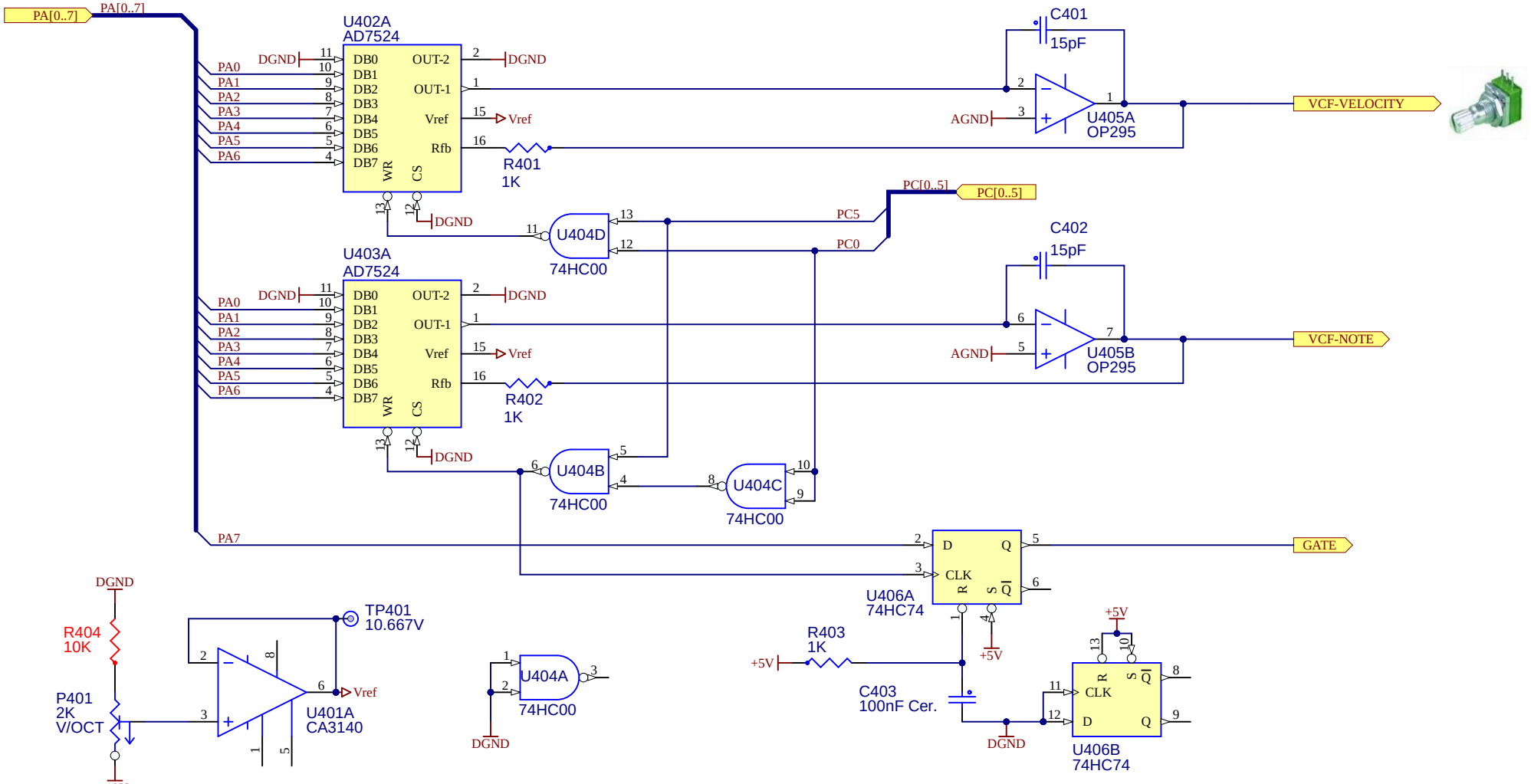
Size	FCSM No.	DWG No.	Rev
A4	12/10/2024	detune-03.schdoc	V1.2
Scale	Laurie Biddulph	Sheet 3 of 15	



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MonoWave (X) - A Rebuild

MIDI to CV Converter

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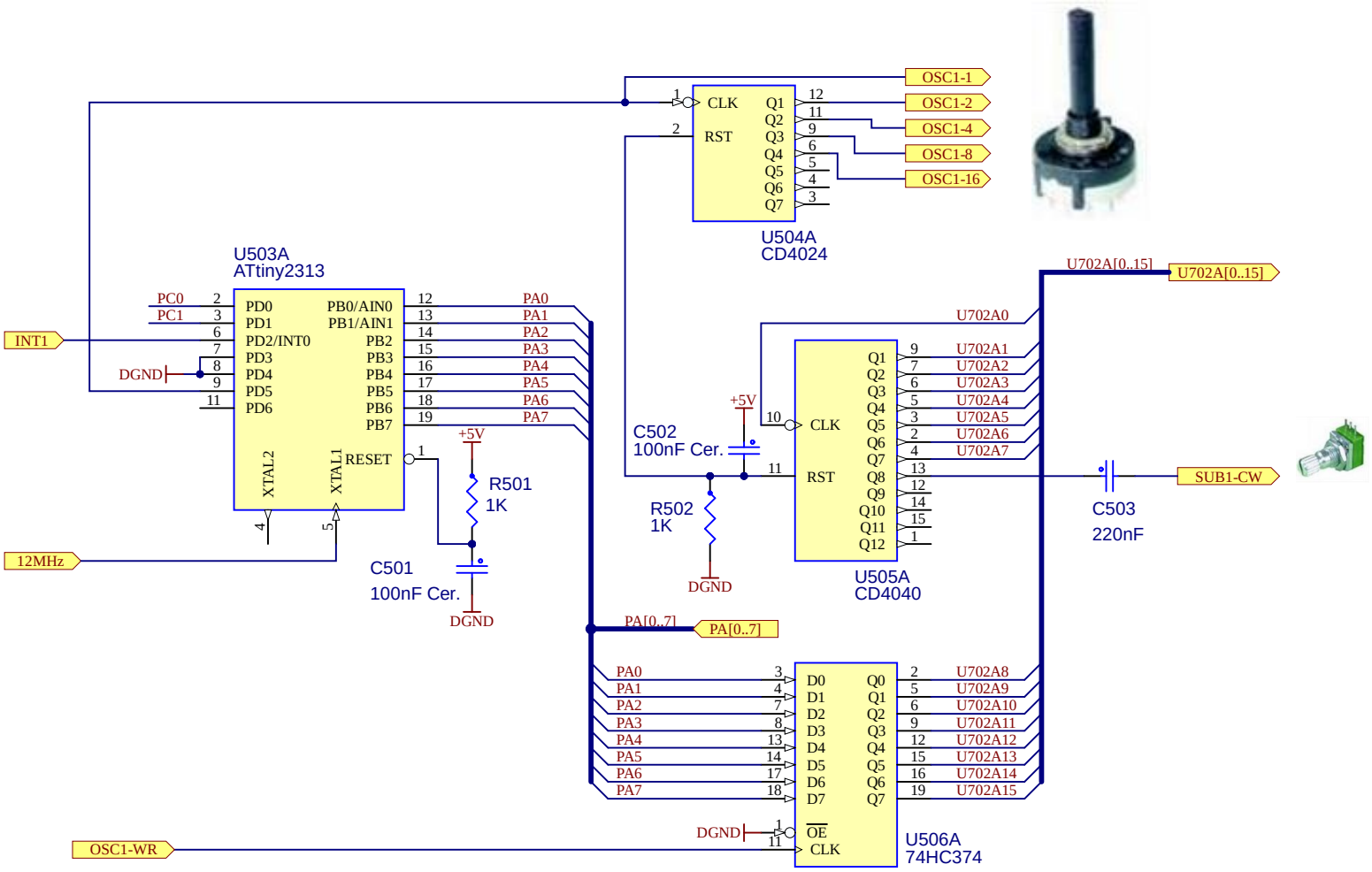
Size	FCSM No.	DWG No.	Rev
A4	12/10/2024	midicv-04.schdoc	V1.2
Scale	Laurie Biddulph	Sheet 4 of 15	



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MonoWave (X) - A Rebuild

Oscillator 1

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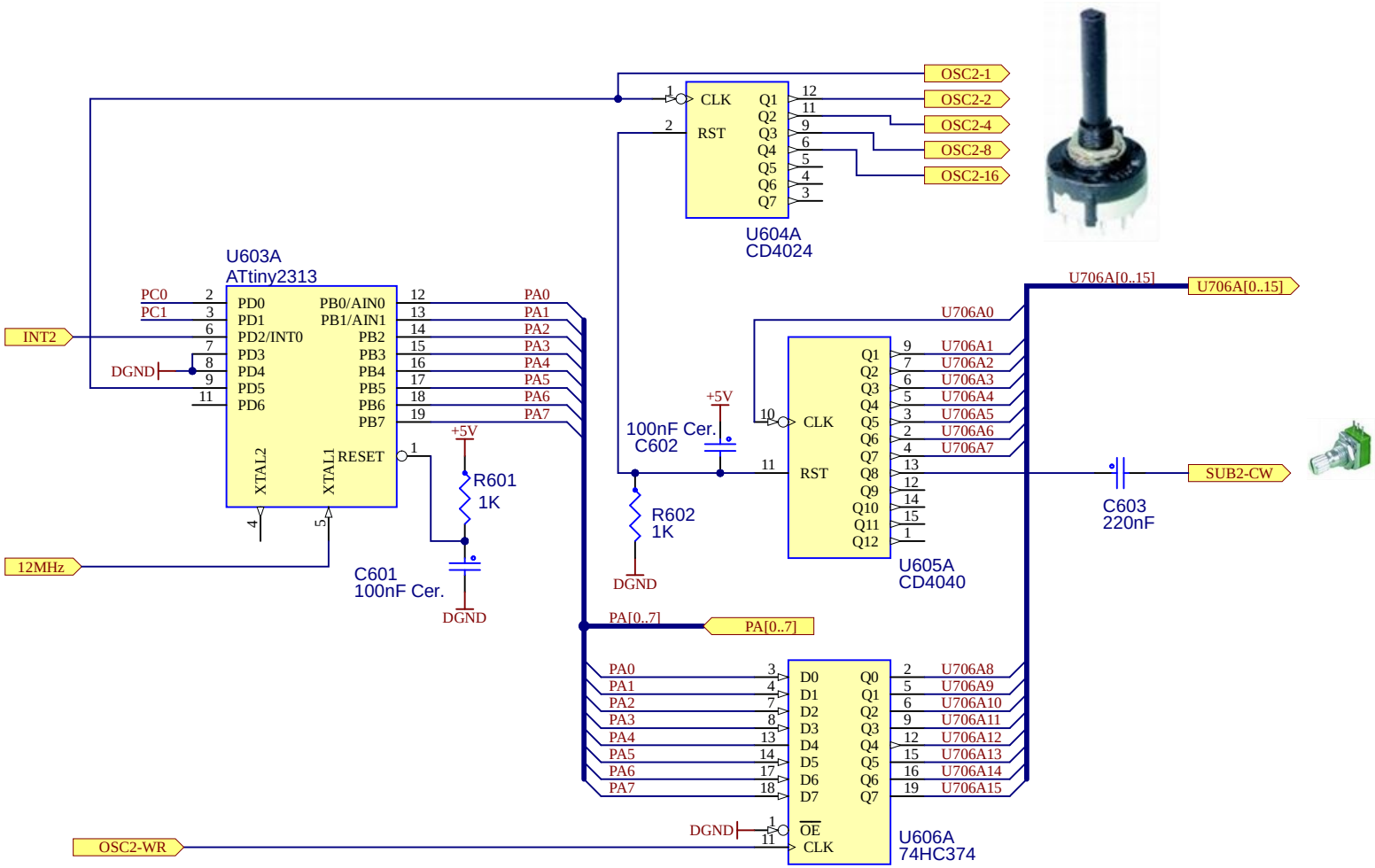
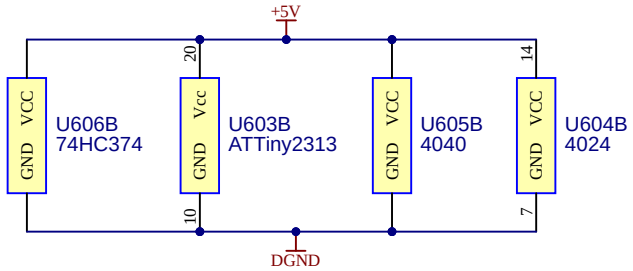
Size	FCSM No.	DWG No.	Rev
A4	12/10/2024	osc1-05.schdoc	V1.2

Scale		Sheet
	Laurie Biddulph	5 of 15





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MonoWave (X) - A Rebuild

Oscillator 2

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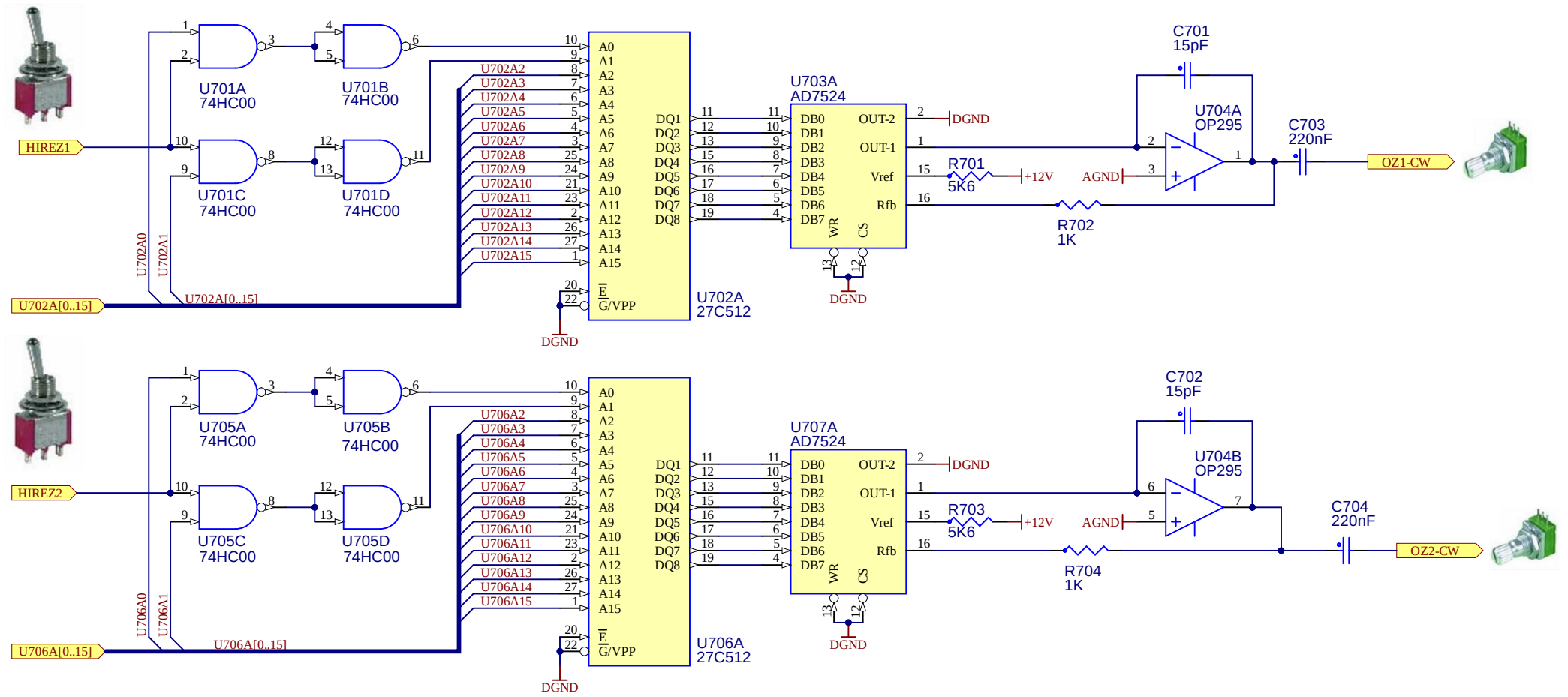
Size	FCSM No.	DWG No.	Rev
A4	12/10/2024	osc2-06.schdoc	V1.2
Scale	Laurie Biddulph	Sheet 6 of 15	



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MonoWave (X) - A Rebuild

Waveform Generator

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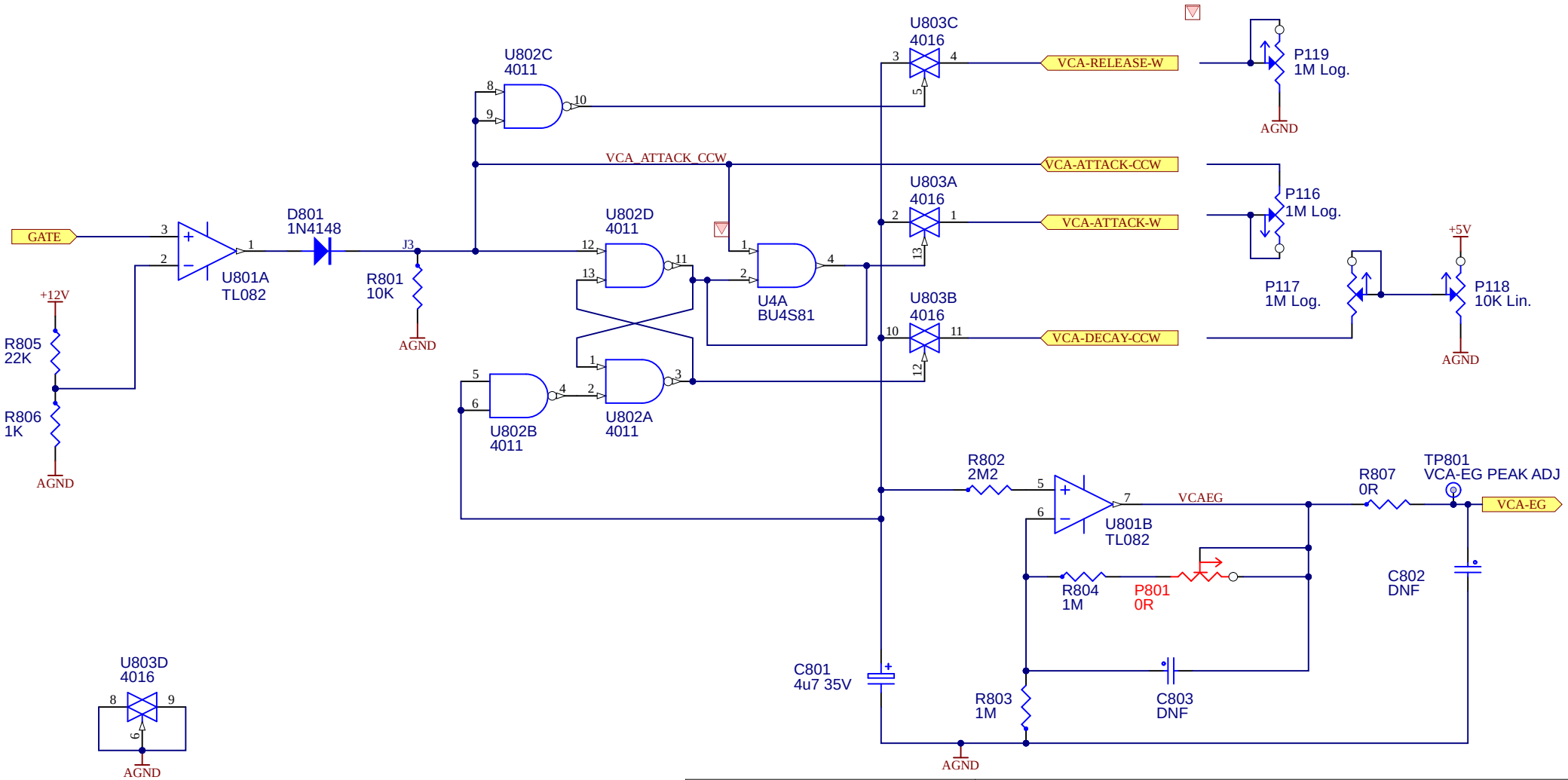
Size	FCSM No.	DWG No.	Rev
A4	12/10/2024	wavegen-07.schdoc	V1.2
Scale	Laurie Biddulph	Sheet 7 of 15	



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MonoWave (X) - A Rebuild

Envelope Generator for VCA

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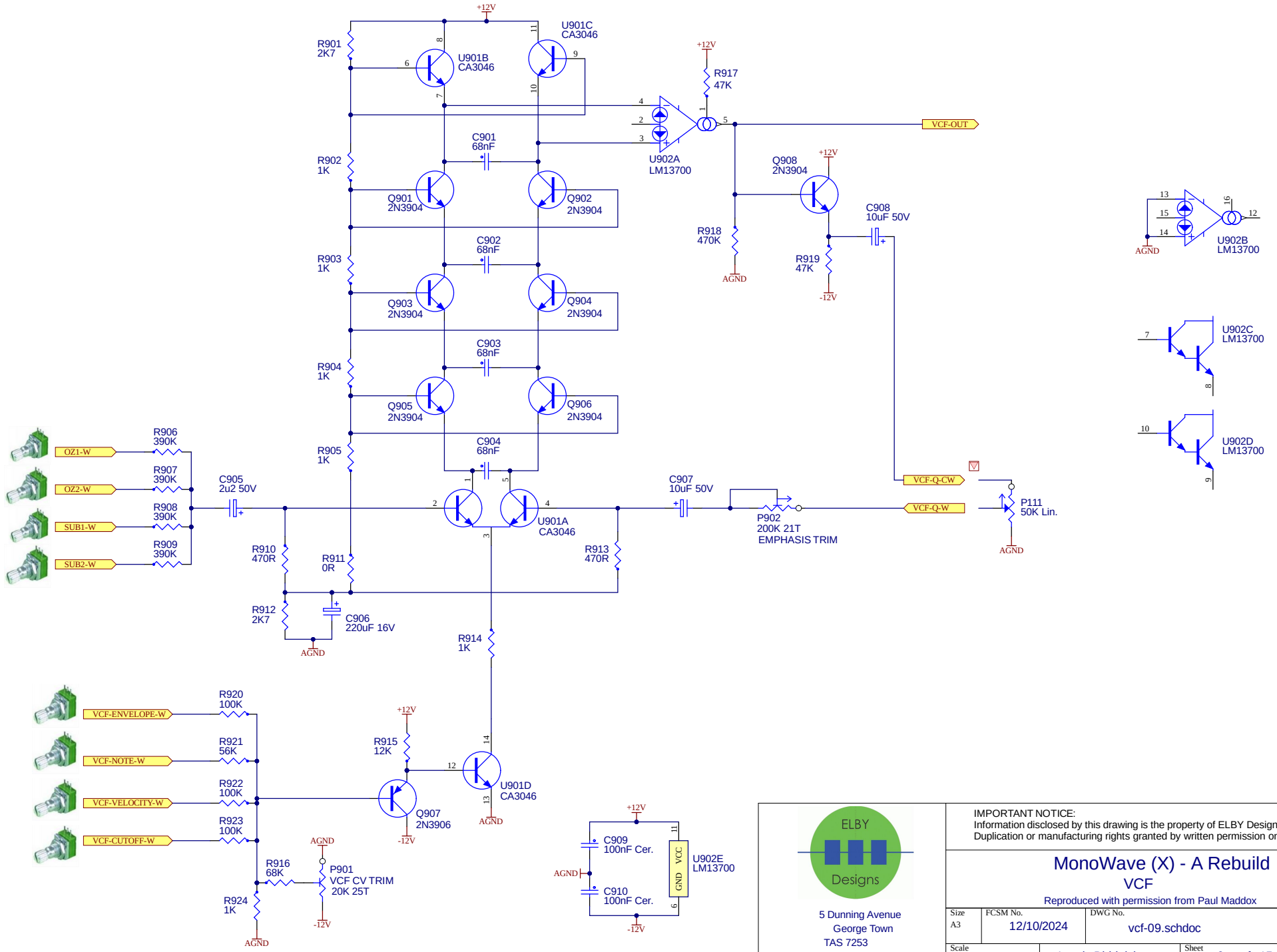
Size	FCSM No.	DWG No.	Rev
A4	12/10/2024	vcaeg-08.schdoc	V1.2
Scale	Laurie Biddulph	Sheet 8 of 15	



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MonoWave (X) - A Rebuild

VCF

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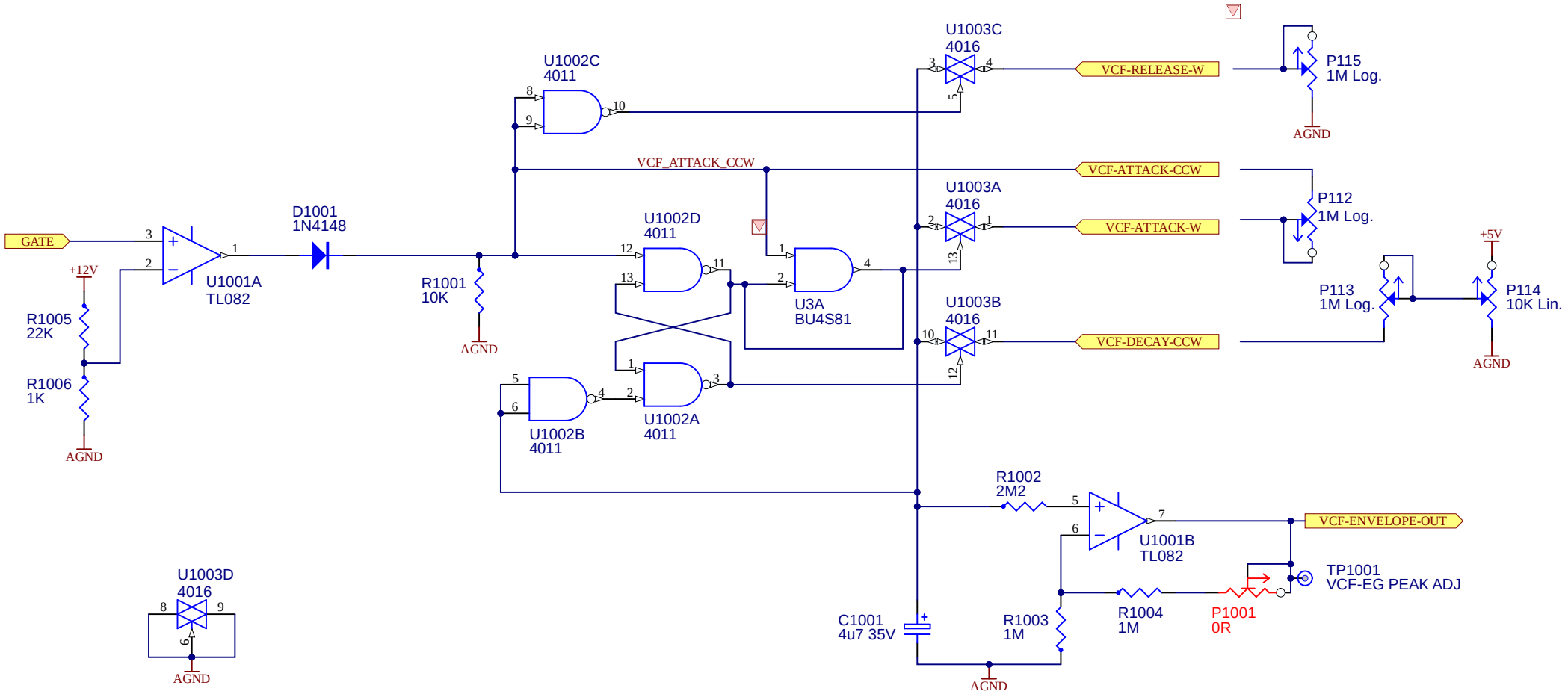
Size	FCSM No.	DWG No.	Rev
A3	12/10/2024	vcf-09.schdoc	V1.2
Scale	Laurie Biddulph	Sheet 9 of 15	



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MonoWave (X) - A Rebuild

Envelope Generator for VCF

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Size	FCSM No.	DWG No.	Rev
A4	12/10/2024	vcfeg-10.schdoc	V1.2
Scale	Laurie Biddulph	Sheet 10 of 15	

VCA-VELOCITY

+12V

P1111
VCA1 OFFSET
20K 25T

R1101
15K

MIDI VELOCITY OFFSET

-12V

R1102
100K

R1103
100K

AGND

U1102D
TL084

TP1101

R1104
47K

R1105
47K

R1113
68K

R1112
39K

U1102A
TL084

MAIN-VCA

U1101B
CA3046

U1101C
CA3046

U1101A
CA3046

U1101D
CA3046

VCF-OUT

C1102
100nF

R1108
47K

R1109
100K

R1111
100K

R1107
22K

R1110
100K

D1101
1N4148

C1101
27pF

U1102C
TL084

R1106
47K

U1102E
TL084

C1103
100nF Cer.

C1104
100nF Cer.

U1102B
TL084

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MonoWave (X) - A Rebuild

VCA1 (Velocity)

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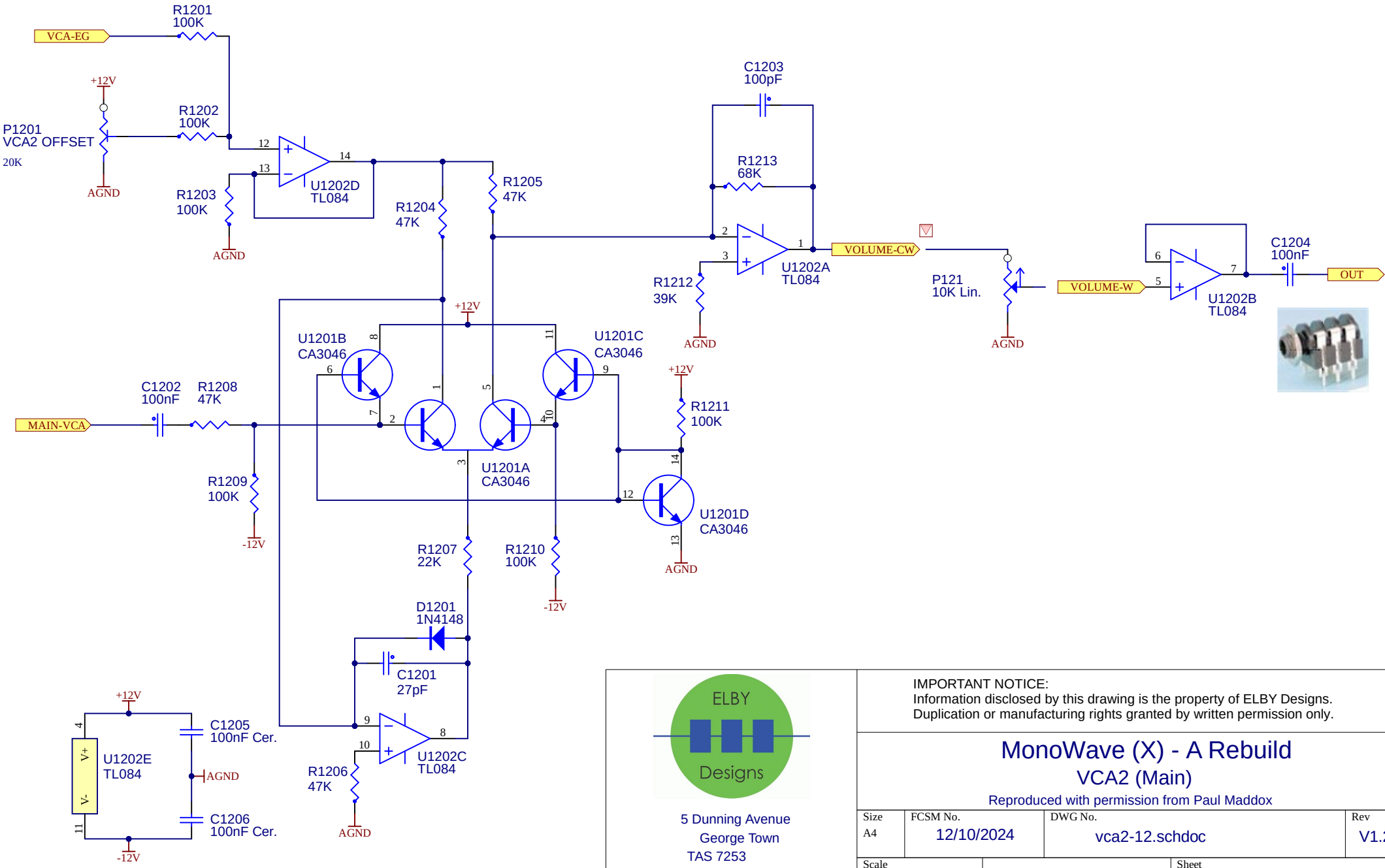
Size	FCSM No.	DWG No.	Rev
A4	12/10/2024	vca1-11.schdoc	V1.2

Scale		Sheet
	Laurie Biddulph	11 of 15



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MonoWave (X) - A Rebuild

VCA2 (Main)

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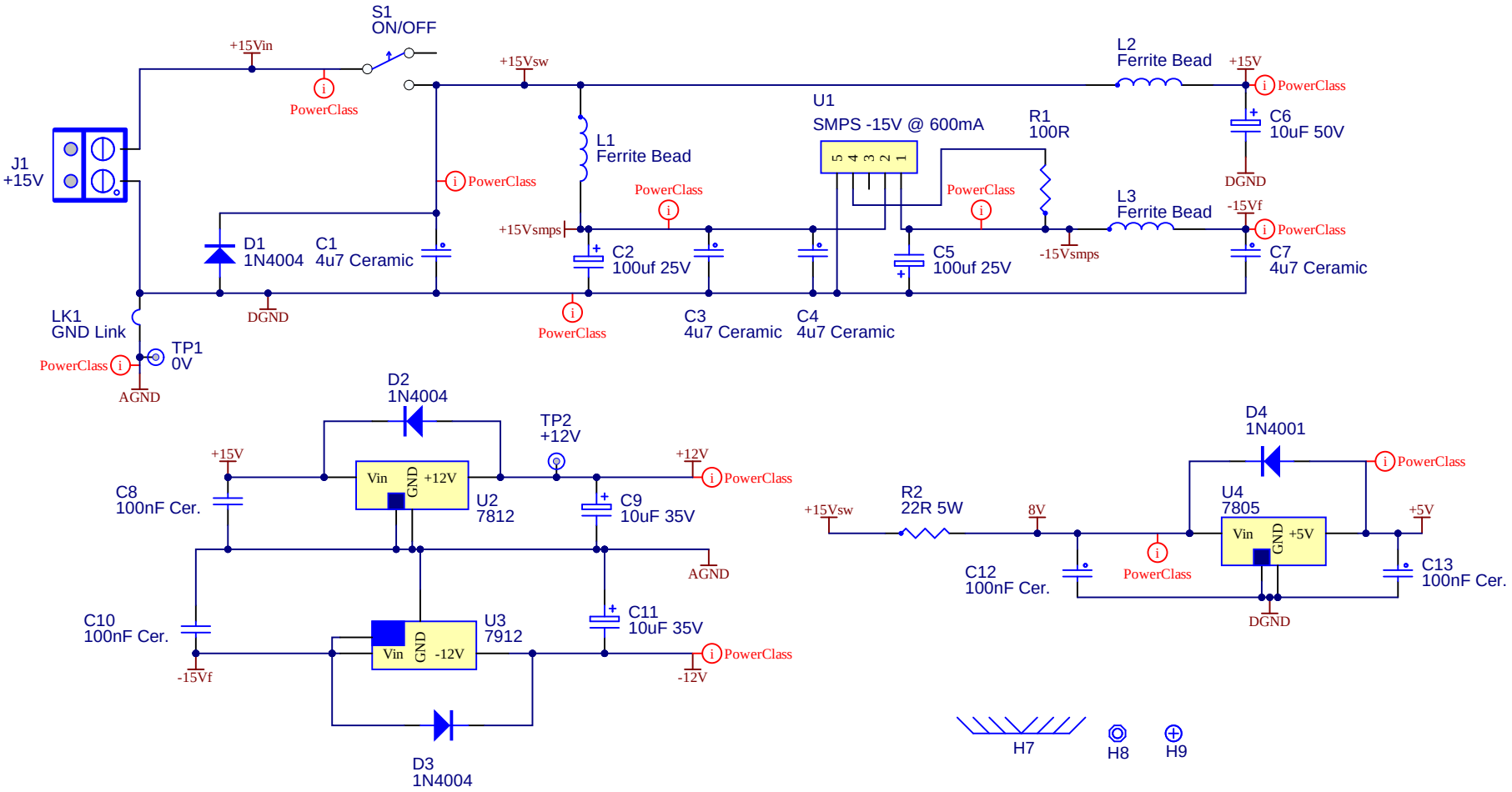
Size	FCSM No.	DWG No.	Rev
A4	12/10/2024	vca2-12.schdoc	V1.2
Scale	Laurie Biddulph	Sheet 12 of 15	



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MonoWave (X) - A Rebuild

Power Supply

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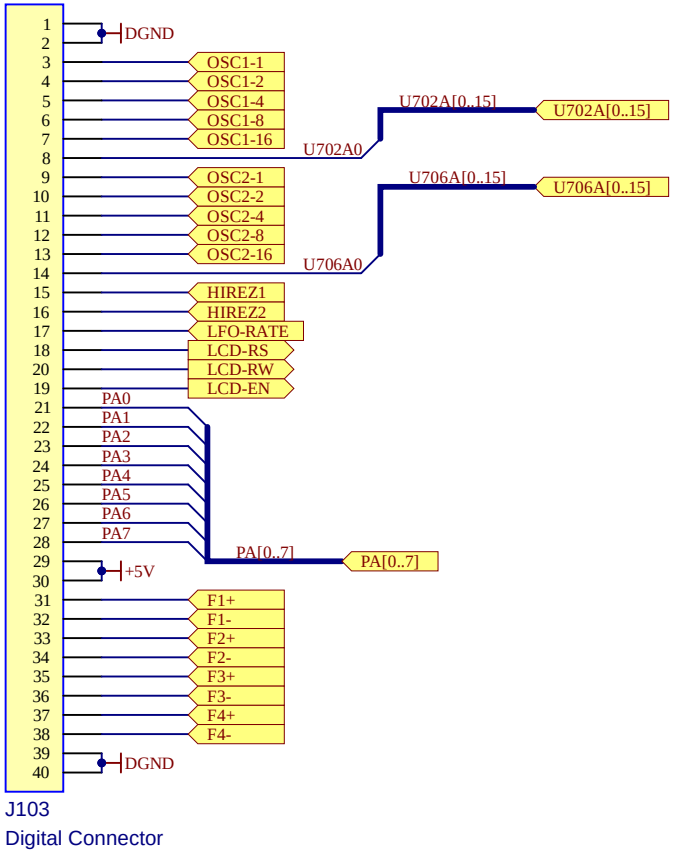
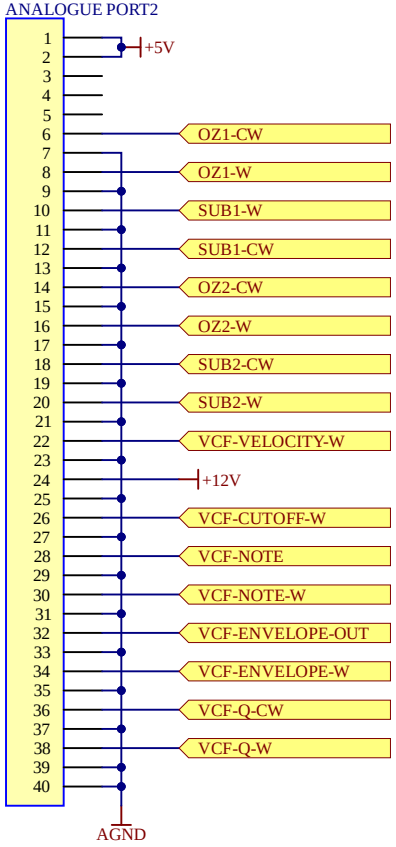
Size	FCSM No.	DWG No.	Rev
A4	12/10/2024	power.schdoc	V1.2

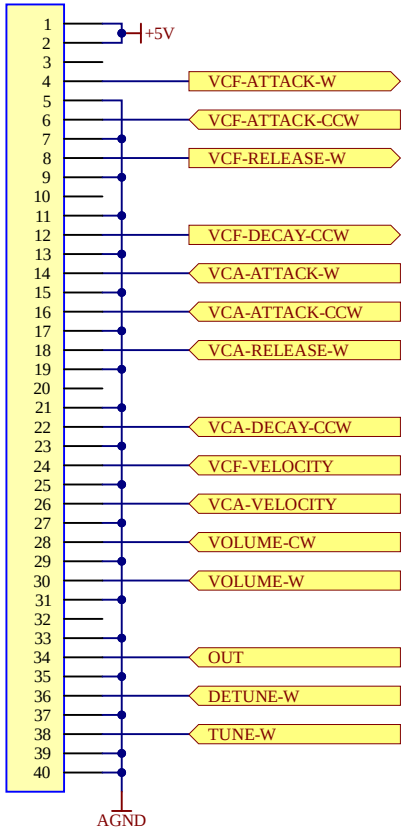
Scale		Sheet
	Laurie Biddulph	13 of 15



J103
Digital Connector



J102
ANALOGUE PORT2



J101
ANALOGUE PORT1

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MonoWave (X) - A Rebuild

Panel Connector

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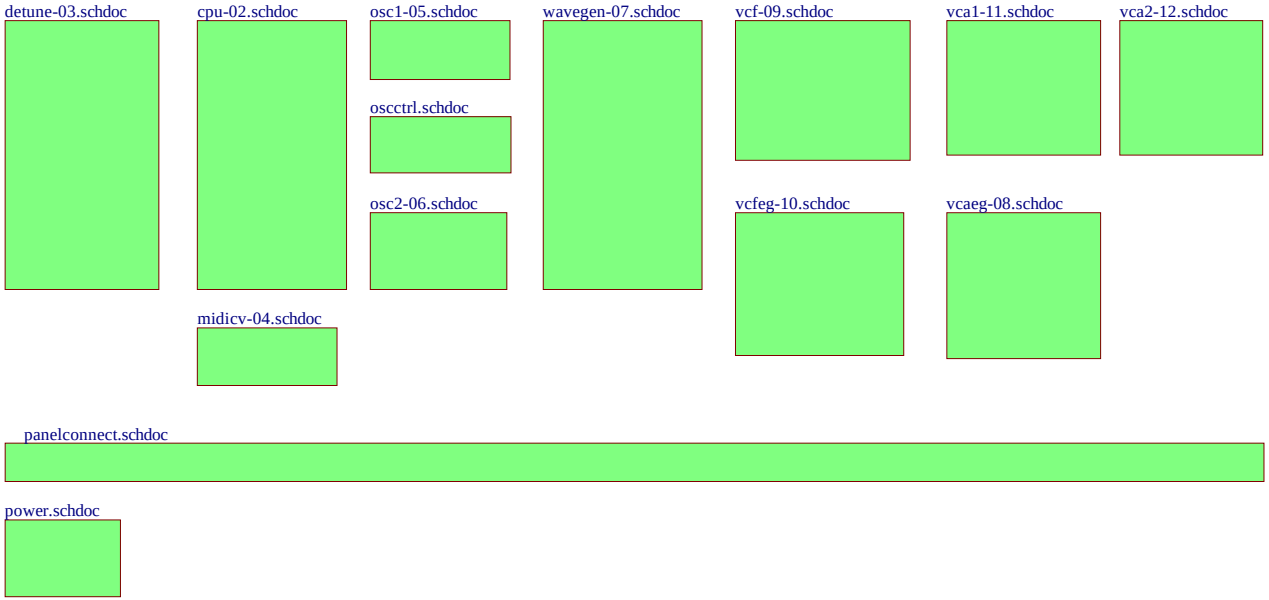
Size	FCSM No.	DWG No.	Rev
A4	12/10/2024	panelconnect.schdoc	V1.2
Scale	Laurie Biddulph	Sheet	14 of 15



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MonoWave (X) - A Rebuild

Block Diagram

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Size	FCSM No.	DWG No.	Rev
A4	12/10/2024	monowave-project.SCHDOc	V1.2

Scale		Sheet
	Laurie Biddulph	15 of 15