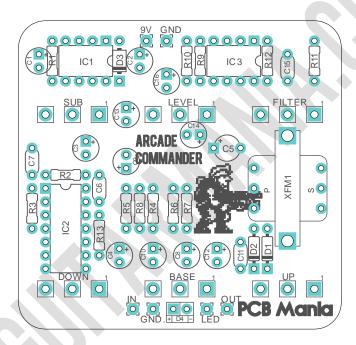
Arcade Commander

Based on Earthquaker Devices Bit Commander

Monophonic analog guitar synthesizer with four octaves of vintage square wave synth tones.

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Project link



The Arcade Commander is a monophonic analog guitar synthesizer with four octaves of vintage square wave synth tones. User friendly controls, two octaves down, one up, square signal control, everything fully analog.

- This board has been designed for on-board pots; keep your project tidy without long cables around.
- Works using four TL072, Lm386 and a CD4024be
- Fits on a 125B enclosure.
- 2 Octaves down, 1 Up. Everything fully analog.
- Octave Up processed through a signal transformer.

BOM

Resistors		Capacitors		
R1	1m	C1	1uf	
R2	22k	C2	10uf	
R3	100k	C3	1uf	
R4	100k	C4	1uf	
R5	220k	C5	100uf	
R6	47k	C6	10n	
R7	220k	C7	22n	
R8	220k	C8	1uf	
R9	10k	C9	1uf	
R10	10k	C10	1uf	
R11	10k	C11	1n	
R12	10k	C12	1uf	
R13	2k7-4k7	C13	100uf	
		C14	10uf	
Pots		C15*	22n*	
BASE	100k B	C16	1uf	
SUB	100K B			
UP	2k B	Diodes		
LEVEL	100k A	D1	1n4148	
DOWN	100k B	D2	1n4148	
FILTER	5k B	D3	1n4001	
		D4	LED 3mm	
IC				
IC1	LM386	Transformers		
IC2	CD4024BE	XFM1	TM011-R	
IC3	TL072			

C15* this cap is in charge of the tone pot response. 22Nf is the value on the original unit but I found that's pretty useless this way. Its recommendable to experiment with higher values, such as 220nf.

Shopping list

Resistors				
2	100k	R3, R4		
4	10k	R9, R10, R11, R12		
1	47k	R6		
3	220k	R5, R7, R8		
1	22k	R2		
1	1m	R1		

1	2K7-4K7	R13		
Potentiometers				
1	100k A	LEVEL		
3	100k B	BASE, DOWN, SUB		
1	5k B	FILTER		
1	2k B	UP		
Capacitors				
2	22n	C7, C15		
1	1n	C11		
1	10n	C6		
Elec	Electrolytics			
8	1uf	C1, C3, C4, C8, C9, C10, C12, C16		
2	10uf	C2, C14		
2	100uf	C13, C5		
Dio	des			
2	1N4148	D1, D2		
1	LED.1	D4		
1	1n4001	D3		
Ics				
1	LM386	IC1		
1	TL072	IC3		
1	CD4024BE	IC2		
Transformers				
1	42TM011			

General Building notes

To populate the PCB it's recommended to follow this order.

- 1. Resistors & diodes
- 2. IC Sockets (set up the proper IC at last)
- 3. Capacitors, starting with the smaller ones and the ceramic ones.
- 4. Electrolytic capacitors (always check the polarity)
- 5. Transistors
- 6. Wires

- 7. Potentiometers
- 8. Off board wiring

Drilling the enclosure

This Project has been planned to fit into a 125B enclosure type.

Check the Attached "Drilling templates" to drill the box properly. The files are on Scale 1:1, ready to print in a A4 page.

Schematic

