



We are incapacitated in the flu and can't make the assembly instructions in time. We are very sorry!
/RYO team

2xVCX Bills of material v 1.0

| Reference | Quantity | Value | Description |
|---|----------|---------------------|---|
| C1 C2 C3 C4 C5 C6 C7 C8 C9 C10 C11 C12 | 12 | 100nF | Capacitor bypass MLCC X7R 2.5-2.54mm pin pitch |
| C13 C14 | 2 | 10uF | Capacitor electrolyte 2mm pin pitch, 5mm dia, max 10mm height. Min 25V. |
| CON1 | 1 | IDC 10-pin | IDC 10 pin power connector (2x5 pin) |
| D1 D2 D3 D4 D5 D6 | 6 | 1N4148 | Signal diode |
| D7 D8 | 2 | 1N5818 | Schottky diode (or 1N5817, 1N5819) |
| J1 J2 J3 J4 J5 J6 J7 J8 J9 | 9 | 3.5mm jack | Thonkiconn 3.5mm jack socket |
| PCB_CON1_1 PCB_CON2_1 | 2 | 8 pin header male | PCB connector PCB1 (1x8 pin) |
| PCB_CON1_2 PCB_CON2_2 | 2 | 8 pin header female | PCB connector PCB2 (1x8 pin) |
| Pcv1 Pcv2 | 2 | 100k | Potentiometer Alpha/Song Huei 9mm |
| Pofs1 Pofs2 | 2 | 22k | Potentiometer Alpha/Song Huei 9mm |
| Q1 Q2 | 2 | BC557B | PNP transistor |
| R1 R2 R3 R4 R5 R6 R7 R8 R10 R12 R16 R17 R19 R20 R37 R38 R39 R40 R41 | 19 | 100k | Resistor 1/4W 1% ca 7mm long |
| R21 R22 R29 R31 R47 R48 | 6 | 10k | Resistor 1/4W 1% ca 7mm long |
| R23 R24 R27 R28 | 4 | 22k | Resistor 1/4W 1% ca 7mm long |
| R25 R26 R30 R32 | 4 | 470R | Resistor 1/4W 1% ca 7mm long |
| R42 R43 R44 | 3 | 1k | Resistor 1/4W 1% ca 7mm long |
| R45 R46 | 2 | 10R | Resistor 1/4W 1 to 5% ca 7mm long |
| R9 R11 R13 R14 R15 R18 R33 R34 R35 R36 | 10 | 200k | Resistor 1/4W 1% ca 7mm long |
| SW1 SW2 | 2 | on-off-on | SPDT on-off-on mini toggle switch. Mouser# 108-1MS3T2B3M2QE-EVX |
| TRbal1 TRbal2 | 2 | 50R | Trimpot Bourns 3296W or equivalent |
| TRgain1 TRgain2 | 2 | 50k | Trimpot Bourns 3296W or equivalent |
| U1 U2 U3 | 3 | TL074 | DIP-14 quad op-amp (or TL084) |
| U4 | 1 | LM13700 | DIP-16 dual OTA |
| U5 | 1 | TL072 | DIP-8 dual op-amp (or TL082) |
| U1 U2 U3 | 3 | DIP14 | IC Socket |
| U4 | 1 | DIP16 | IC Socket |
| U5 | 1 | DIP8 | IC Socket |
| | 2 | | PCB spacer 11mm |
| | 4 | | Knobs |
| | 1 | | 16 to 10 pin IDC ribbon cable |
| | 1 | | Panel |
| | 1 | | PCB1 |
| | 1 | | PCB2 |

Calibration

For best result, let the module warm up with power on for 20-30 minutes before calibration.
Use either your hearing or an oscilloscope.

Patch an unconnected cable to the A1 input.

Set the toggle at the right (B>A) position, turn OFFSET 1 knob to 0% and CV attenuator 1 knob to 100% +.

Patch VCO to CV1 input and adjust TRbal1 for minimum CV feed-through on OUT1.

Move VCO patch cable to B1 input, turn OFFSET knob to 100% and adjust TRgain for minimal amplitude on OUT.

Repeat until satisfaction. Do the same for the second channel (2).

Power consumption

34mA @ +12V

32mA @ -12V