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Oakley Modular Systems

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Qty	Mfgr. Name	Manufacturer's Part Number	Part Description	Schematic Reference	Vendor	Vendor Stock #	Each	Total
6	Xicon	271-100K	100K ¼W 1% resistor 50 ppm	R8, R16, R19, R20, R22, R24	Mouser	271-100K	0.09	0.54
6	Xicon	271-10K	10K ¼W 1% resistor 50 ppm	R7, R10, R25, R27, R28, R30	Mouser	271-10K	0.09	0.54
4	Xicon	271-1K	1K ¼W 1% resistor 50 ppm	R32, R33, R34, R35	Mouser	271-1K	0.09	0.36
4	Xicon	271-150K	150K ¼W 1% resistor 50 ppm	R1, R4, R5, R6	Mouser	271-150K	0.09	0.36
3	Xicon	271-62K	62K ¼W 1% resistor 50 ppm	R9, R14, R17	Mouser	271-62K	0.09	0.27
3	Xicon	271-47K	47K ¼W 1% resistor 50 ppm	R21, R23, R31	Mouser	271-47K	0.09	0.27
2	Xicon	271-470K	470K ¼W 1% resistor 50 ppm	R11, R12	Mouser	271-470K	0.09	0.18
2	Xicon	271-1.0M	1.0M ¼W 1% resistor 50 ppm	R26, R29	Mouser	271-1.0M	0.09	0.18
1	Xicon	271-120K	120K ¼W 1% resistor 50 ppm	R18	Mouser	271-120K	0.09	0.09
1	Xicon	271-220K	220K ¼W 1% resistor 50 ppm	R15	Mouser	271-220K	0.09	0.09
1	Xicon	271-27K	27K ¼W 1% resistor 50 ppm	R13	Mouser	271-27K	0.09	0.09
1	Xicon	271-33K	33K ¼W 1% resistor 50 ppm	R2	Mouser	271-33K	0.09	0.09
1	PRC	PT146	Res: 1.00K ¼ watt 1% metal film PT146 +3500 PPM/°C	R3 [1]	PRC	PT146	1.46	1.46
2	Piher	PTC10V-100K	100K 10mm Cermet trimpot	OFF1, OFF2	Mouser	531- PTC10V-100K	0.45	0.90
1	Spectrol	064W203	20K ¼ watt Cermet, 20-turn	V/OCT	Mouser	594-64W203	2.00	2.00
1	Spectrol	064W104	100K ¼ watt Cermet, 20-turn	TUNE	Mouser	594-64W104	2.00	2.00
1	Omeg	BR16ECO-10KA	10K linear taper pot w/bracket	RESONANCE	OMS	SVF Pot Kit	1.92	1.92
6	Omeg	BR16ECO-47KA	47K linear taper pot w/bracket	IN1, IN2, IN3, CV1, CV2 DEPTH, FREQUENCY	OMS	SVF Pot Kit	1.93	11.58
						Pot Kit (£ 9.00)	13.50	
5	Vishay	MKT1826410064	0.1 uf @ 63V poly 5%	C2, C3, C7, C8, C9	Mouser	75-MKT1826410064	0.21	1.05
2	Panasonic	ECH-S1H102JZ	1000 pf @ 50V PPS film 5%	C4, C10	Digikey	PS1H102J-ND	0.35	0.70
4	Panasonic	EEU-FC1V220	22 uf 35V FC-series capacitor	C1, C5, C6, C11	Digikey	P11230-ND	0.46	1.84

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Qty	Mfgr. Name	Manufacturer's Part Number	Part Description	Schematic Reference	Vendor	Vendor Stock #	Each	Total
4	Fairchild	1N4148	1N4148 Silicon diode	D1, D2, D3, D4	Mouser	512-1N4148	0.05	0.20
1	Diodes	1N5231B	5.1V 5% Zener 500 mw	D5 [2]	Digikey	1N5231BDICT-ND	0.36	0.36
1	Fairchild	BC550C or 2N3904	BC550C NPN low noise transistor (2N3904·pinout!) [3]	Q1	Mouser	512-BC550C or 512-2N3904	0.07 0.11	0.07 0.11
2	Fairchild	BC560C or 2N3906	BC560C PNP low noise transistor (2N3906·pinout!) [3]	Q2, Q3	Mouser	512-BC560C or 512-2N3906	0.07 0.08	0.14 0.16
1	Intersil	CA3280E	CA3280E dual OTA 16-pin DIP	U1	Future-Active	CA3280E	4.05	4.05
3	T.I.	TL072ACP	TL072 dual opamp DIP	U2, U3, U4	Mouser	595-TL072ACP	0.74	3.70
2	Fair-Rite	2743002112	Ferrite Bead – broadband #43 material	L1, L2	Mouser	623-2743002112	0.12	0.24
1	Molex	MTA-156	MTA-156 power entry	PWR	Mouser	571-6404454	0.11	0.11
7	Tyco/ Alco	PKES-90B-1/4	Knob with pointer stripe	RESONANCE, IN1, IN2, IN3, CV1, CV2 DEPTH, FREQUENCY	Various	-	1.50	10.50
10	Switch-craft	112A	¼" phone jack with closed circuit	1V/OCT, NOTCH, CV1, CV2, LP, HP, BP, IN1, IN2, IN3	Mouser	502-112A	1.44	14.40

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Notes:

1 Resistor R3 is specified as a Precision Resistor PT146 which is a 1K 1% temperature compensating part. The component specified by Oakley has a smaller lead diameter and will fit better into the printed circuit board. But the Oakley supplied part is off just a bit for full temperature compensation. The PT146 is exactly the right part to use for the best possible temperature compensation. That having been said, the Oakley supplied part might be "better" as a filter does not need perfect tracking as does a VCO and it does fit much better. This is YC: Your Call.

2 Diode D5 value depends on the amount of resonance signal you want. The higher the voltage of this zener diode, the more signal that will be fed back. But the more signal fed back, the higher the level of "nastiness" that will be heard. As Tony suggests, something between 5.1V and 8.2V would be appropriate. I'm going with 5.1V as that seems a bit "warmer". Higher voltage zeners have more "bite" but don't sound as smooth to my ears. You might want to add a toggle switch to select which zener diode is in the circuit.

3 2N3904 and 2N3906 transistors may be substituted for the BC550 and BC560 transistors, respectively. **Note:** The 2N390x parts use a different pinout than the BC5x0 counterparts. When looking at the flat side of a **2N390x** and the leads point down, the pins (left-to-right) are **E-B-C**. When looking at the flat side of a **BC5x0** and the leads point down, the pins (left-to-right) are **C-B-E**. Install the transistor you buy accordingly!

The total cost of the components listed herein is $60.34 and does not reflect quantity purchases. These prices were in effect at the time this list was compiled and will undoubtedly fluctuate over time.

Digikey = www.digikey.com Mouser = www.mouser.com OMS = www.oakleysound.com

PRC = http://www.precisionresistor.com/PT146-35.htm Future = www.future-active.com

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