

Hybrid adjustable damping amp - Bill of Materials

Qty	Value	Footprint	Parts	Details	Manufacturer	MPN	Vendor	Vendor PN	Notes
4	164-R105	BANANA_BP	BP1, BP2, BP3, BP4	Banana / binding post	Kobiconn	164-R105	Mouser	164-R105	
4	330uF 35V	CPOL-EUE5-10.5	C1, C2, C7, C12	Low ESR	Nichicon	UPW1V331MPD	Digikey	493-1865	
2	680pF PP	C-EU050-045X075	C21, C41	50V polypropylene	Panasonic	ECQ-P1H681JZ	Digikey	P3681	
3	0.22uF PP	CAP_DUAL_FILM	C22, C34, C38	100V+ Polypropylene	Wima	MKP10/.22/250/10	Mouser	505-M10.22/400/10	
2	220pF PP	C-EU050-045X075	C23, C24	50V polypropylene	Panasonic	ECQ-P1H221JZ	Digikey	P3221	
4	330pF PP	C-EU050-045X075	C28, C29, C31, C32	50V polypropylene	Panasonic	ECQ-P1H331JZ	Digikey	P3331	
2	2.7nF PP	C-EU050-045X075	C3, C4	50V polypropylene	Panasonic	ECQ-P1H272GZ	Digikey	P3272	
3	10000uF 63V	C30SNAP	C33, C39, C46	30mm snapmount	Unitec Chemicon	ESMh630VSN103MR50T	Digikey	565-2698	
4	10uF 63V PE	CAP_PCM22_27	C36, C37, C42, C44	63V+ film	Cornell Dubilier	DME1W10K-F	Mouser	5989-100V10.0-F	C40, C42 optional
2	15000uF 50V	C30SNAP	C43, C45	30mm snapmount	Panasonic	ECO-S1HP153DA	Digikey	P6943	
2	47uF 16V TA	CPOL-EUTT5D7	C5, C20	Tantalum	AVX	TAP476K016SCS	Mouser	581-TAP476K016SCS	
3	120uF 63V	CPOL-EUE5-10.5	C6, C15, C35	Low ESR	Nichicon	UPW1J121MPD	Digikey	493-1938	
15	100nF	C-EU050-030X075	C8, C9, C10, C11, C13, C14, C16, C17, C18, C19, C25, C26, C27, C30, C40	50V polypropylene	BC Components	2222 416 41004	Digikey	BC2054	
2	LED_RA	LED_RA	D1, D2	RA T 1-3/4 PCB	Lumex	SSF-LXH104ID	Mouser	696-SSF-LXH104ID	
1	1N5232	BZX85	D10	5.6V 1/2W Zener diode	Fairchild Semiconductor	1N5232B	Mouser	512-1N5232B	
2	1N5296	CCS_1N5291	D11, D12	0.91mA CCS diode	Central Semiconductor	1N5296	Mouser	610-1N5296	
5	1N4148	1N4148	D3, D7, D8, D9, D13	Standard signal diode	generic	1N4148	Mouser	512-1N4148TR	
1	1M8R3100	1N5908	D4	6.2V 1500W TVS	On Semiconductor	1N5908G	Mouser	863-1N5908G	
1	1p5KE56	15KEXX	D5	56V 1500W TVS	Littelfuse	1.5KE56	Mouser	576-1.5KE56	
1	1N5250	BZX85	D6	10V 1/2W Zener diode	Fairchild Semiconductor	1N5250B	Mouser	512-1N5250B	
1	5A	SH22.5	F1	5A 5x20mm slow-blow fuse	Schurter	1.2511	Mouser	693-0001_2511	
1	FUSE HOLDER	..	@F1	Fuse holder	Keystone	4527	Mouser	534-4527	
1	FH_COVER	..	@F1	Cover for fuseholder	Keystone	4527C	Mouser	534-4527C	
2	262-75AB-01	D01PA	HS1, HS4	Small heatsink	Wakefield	262-75AB-01	Mouser	567-262-75AB-01	
2	530002B02500	SK129	HS2, HS3	Large heatsink	Aavid	530002B02500G	Digikey	HS380	
1	PJ-102BH	DCJACK 2.5mm	J1	2.5mm high current	CUI Stack	PJ-102BH	Digikey	PJ-102BH	
1	161-4221-E	JACK_DUAL_RCA	J2	Dual RCA jacks	Kobiconn	161-4219	Mouser	161-4219	
2	G5V-2-H1-DC5	351	K1, K2	Relay	Omron	G5V-2-H1-DC5	Mouser	653-G5V-2-H1-DC5	
1	1220uH 2A	IND_C3	L1	Toroidal inductor	Alpha-Mag	SWC-1.4-220	Digikey	TE2111	
1	CMT908-V3	CML_PE-96173	L2	Common-mode filter	Triad Magnetics	CMT908-V3	Mouser	553-CMT908V3	
1	2N3904	2N3904	Q1	NPN transistor TO92	generic	2N3904	Mouser	512-2N3904BU	
1	FDP52N20	MOSFET_TO2202	Q2	Power MOSFET 20V 5A TO220	ST Micro	STD5N20T4	Mouser	511-STD5N20	
2	475	R14W	R1, R2	generic	generic		Digikey	475XKB	
1	2.7k 2W	R2W 5083	R11	Small 2W metal film	BC Components	PR02000202701JR500	Mouser	594-5083NW2K700J	
4	4.75k	R14W	R12, R13, R14, R16	generic	generic		Digikey	4.75XKB	
2	1k	TRIMPOT_3266	R17, R42	Small vertical trimpot	BI Technologies	64WR1KLF	Mouser	858-64WR1KLF	
4	1k CC	R14W	R20, R37, R44, R48	1/4W carbon comp	Xicon	30BJ250-1.0K	Mouser	30BJ250-1.0K	
6	20.0k	R14W	R22, R23, R27, R28, R30, R47	generic	generic		Digikey	20.0KXKB	
2	47.5k	R14W	R24, R25	generic	generic		Digikey	47.5KXKB	
1	3.9k 2W	R2W 5083	R26	Small 2W metal film	BC Components	PR02000203901JR500	Mouser	594-5083NW3K900J	
2	4.12k	R14W	R3, R9	generic	generic		Digikey	4.12KXKB	
2	15.0k	R14W	R31, R34	generic	generic		Digikey	15.0KXKB	
2	0.47 3W	R5W MILLS	R38, R39	3W wirewound	Vishay/Dale	CW02BR4700JB12	Mouser	71-CW2B-J-0.47	
1	10.0k	R14W	R4	generic	generic		Digikey	10.0KXKB	
1	12k 2W	R2W 5083	R40	Small 2W metal film	BC Components	PR02000202001JR500	Mouser	594-5083NW2K000J	
1	10.0	R14W	R41	generic	generic		Digikey	10.0XKB	
1	0.02 1/2W	R5W MILLS	R43	Current sense	Vishay/Dale	LVR03R0200FE70	Mouser	71-LVR03R0200FE70	
1	100	R14W	R45	generic	generic		Digikey	100XKB	
2	220 2W	R2W 5083	R49, R50	Small 2W metal film	BC Components	PR02000202200JR500	Mouser	594-5083NW220R0J	
2	40.2	R14W	R5, R46	generic	generic		Digikey	40.2XKB	
8	1.00k	R14W	R6, R15, R18, R19, R32, R33, R35, R36	generic	generic		Digikey	1.00KXKB	
3	470k	R14W	R7, R10, R29	generic	generic		Digikey	475KXKB	
2	66.5k	R14W	R8, R21	generic	generic		Digikey	66.5KXKB	
1	50K AUDIO	POT_ALPS_ALPHA	RV1	Dual audio taper pot	Taiwan Alpha	RV122F-20-15F-A50K	Mouser	313-1240F-50K	Can also use Alps RK22 50KAX2
1	50K LINEAR	POT_ALPS_ALPHA	RV2	Dual linear taper pot	Taiwan Alpha	RV122F-20-15F-B50K	Mouser	313-1250F-50K	Can also use Alps RK22 50KBX2
1	MS-100726	SW_DPDT_7XXXA	S1	DPDT RA	Mountain Switch	108-1MD11T2B4M7QE-EVX	Mouser	108-1MD11T2B4M7QE-EVX	
1	LM2591HVT-ADJ	LM2591HVT	U1	Buck regulator IC	National Semiconductor	LM2591HVT-ADJ	Digikey	LM2591HVT-ADJ	
1	TLC555CP	LM555N	U2	CMOS timer	Texas Instruments	TLC555CP	Mouser	595-TLC555CP	
2	OPA604AP	OPA658P	U3, U4	Opamp	Texas Instruments	OPA604AP	Mouser	595-OPA604AP	
2	8-PIN DIP SOCKET	..	@U3, @U4	8-pin DIP socket	Mill-Max	110-43-308-41-001000	Mouser	575-11043308	Optional
1	UCC3917N	UCC3917P"	U5	Soft-start controller	Texas Instruments	UCC3917N	Digikey	296-6774-5	
2	OPA548T	OPA547T	U6, U7	Power opamp	Texas Instruments	OPA548T	Mouser	595-OPA548T	
2	ECC86/8GM8	TRIODE_9AJ	VT1, VT2	Dual triode	Antique Electronics	T-6GM8-ECC86	Antique Electronics	T-6GM8-ECC86	Can also use 6DJ8/ECC88
2	NOVAL PCB SOCKET	..	@VT1, @VT2	9-pin PCB socket	Antique Electronics	P-ST9-214	Antique Electronics	P-ST9-214	
2	10 1W 20T	RL1W	Z1, Z2	10 ohms 1W CC w/ coil	Ohmite	OA100K	Digikey	OA100KE-ND	Can use any value 10-22 ohms, wind 20 turns wire on outside
1	Case	..	..	..	Serpac	091-I BLACK	Digikey	SR091-IB	Only bottom half used
1	Power supply	..	..	48V 100W adapter	Cincon	TR100A480-02E13(ROHS)	Mouser	418-TR100A480-02	