

BOM :: 110656-1 :: Eenvoudige eindversterker :: v1.0 - THESE ITEMS ARE FC

Description	Manufacturer	Reference	Footprint	Designation
Resistor				
390 Ω , 5%, 0W25	Multicomp	MCF 0.25W 390R	res10e	R1, R3
15 k Ω , 5 %, 0W25	Multicomp	MCF 0.25W 15K	res10e	R2, R4, R17, R18, R22, R23, R30
8k Ω , 5 %, 0W25	Multicomp	MCF 0.25W 8K2	res10e	R5
1k Ω , 5 %, 0W25	Multicomp	MCF 0.25W 1K2	res10e	R6, R20, R28
220 Ω , 5 %, 0W25	Multicomp	MCF 0.25W 220R	res10e	R7
100 Ω , 5 %, 0W25	Multicomp	MCF 0.25W 100R	res10e	R8, R9
0 Ω , 1 %, 5 W	Vishay Dale	LVR05R2000FE73	LVR05	R10, R11
3 Ω , 5 %, 5 W	Multicomp	MCKNP05SJ039JAA9	res30e	R12, R13
220 k Ω , 5 %, 0W25	Multicomp	MCF 0.25W 220K	res10e	R14
10 M Ω , 5 %, 0W25	Multicomp	MCF 0.25W 10M	res10e	R15, R16
27 k Ω , 5 %, 0W25	Multicomp	MCF 0.25W 27K	res10e	R19
470 k Ω , 5 %, 0W25	Multicomp	MCF 0.25W 470K	res10e	R21
1 M Ω , 5 %, 0W25	Multicomp	MCF 0.25W 1M	res10e	R24
820 k Ω , 5 %, 0W25	Multicomp	MCF 0.25W 820K	res10e	R25, R26
68 k Ω , 5 %, 0W25	Multicomp	MCF 0.25W 68K	res10e	R27
1 k Ω , 5 %, 0W25	Multicomp	MCF 0.25W 1K	res10e	R29
470 Ω , 20 %, 0W15, trimmer, top adjust	TE Connectivity/Cited	CB10LV471M	pote	P1
Capacitor				
4 μ 7, 10 %, 63V, lead spacing 7.5mm	Epcos	B32560J475K	B32560J475K	C1

1 nF, 10 %, 400V, lead spacing 7.5mm, EPCOS B32520C6102K Film Capacitor, 1000 pF, ± 10%, PET (Polyester), 400V	Epcos	B32520C6102K	mkt1e	C2
5-57 pF, 250 V, trimmer, top adjust, VISHAY BFC280908003 CAP VAR, TOP & BOTTOM, 5PF TO 57PF, 250V	Vishay BCcomponent	BFC280908003	TRIM22228090800	C3
100 nF, 10 %, 100V, lead spacing 7.5 mm, EPCOS B32520C1104K Film Capacitor, 0.1 µF, ± 10%, PET (Polyester), 100V	Epcos	B32520C1104K	mkt1e	C4, C6, C7
47 nF, 10 %, 400 V, lead spacing 7.5 mm	Epcos	B32520C6473K	mkt1e	C5
PANASONIC ELECTRONIC COMPONENTS ECOS2AP472DA Electrolytic Capacitor, 4700 µF, ± 20%, 100V, Dia. 30 mm, Height 50mm, lead spacing 10mm, ESR 0.071 ohm	Panasonic	ECOS2AP472DA	4700uF_100V_2	C8, C9
2u2, 10 %, 63 V, lead spacing 5 mm	Wima	MKS2C042201K00KSSD	mkt3e	C10
33 nF, 10 %, 63 V, lead spacing 5 mm	Epcos	B32529C333K	mkt1e	C11

10 μ F, 20 %, 100 V, lead spacing 2.5 mm, diam. 6.3 mm	Multicomp	MCGPR100V106M6.3X	elco2er	C12,C13,C16
1 μ F, 20 %, 250 V, lead spacing 2.5 mm, diam. 6.3 mm	Panasonic	ECA2EHG010	elco2er	C14
220 μ F, 20 %, 16 V, lead spacing 5 mm, diam. 10 mm, bipolar	Multicomp	NP16V227M10X12.5	elco5er	C15
Inductor / Self				
450 nH, 13 windings, 7mm inner diam. 1.5mm enamelled copper wire			INDUCTOR	L1
Semiconductor				
15V, 0W5, zener	Vishay	BZX55C15-TAP	diod1e	D1,D2
1N4004	Diodes Inc.	1N4004-T	diod2e	D3,D4
1N4148	Multicomp	1N4148	diod1e	D5
Led red 3 mm, through hole, KINGBRIGHT L-934ID LED, Low Power, Red, Through Hole, T-1 (3mm), 20 mA, 2V, 625 nm	Kingbright	L-934ID	ledev	D6
BD139, STMICROELECTRONICS Bipolar (BJT) Single Transistor, NPN, 80V, 1.25W, 1.5 A, 250 hFE	STMicroelectronics	BD139	to126_1	T1
MJE15032	ON Semiconductor	MJE15032G	to220e5	T2
MJE15033	ON Semiconductor	MJE15033G	to220e5	T3
SEMELAB MG6330-R Bipolar (BJT) Single Transistor, Audio, NPN, 260V, 60MHz, 200W, 15A, 70 hFE	Semelab	MG6330-R	SG6330	T4

SEMELAB MG9410-R Bipolar (BJT) Single Transistor, Audio, PNP, -260V, 35MHz, 200W, -15A, 70 hFE	Semelab	MG9410-R	SG6330	T5
2N5550	ON Semiconductor	2N5550G	to92e1	T6-T10
LME49811, Texas Instruments LME49811TB/NOPB Audio Amplifier, Class-AB Mono, 15-Pin TO-247	ational Semiconduc	LME49811TB/NOPB	TO-247 15 lead Pack	IC1
OPA177	Texas Instruments	OPA177GPG4	dip8e	IC2
4N25	Avago Technologies	4N25-060E	dip6e	IC3
<i>Other</i>				
2-way pinheader SIL, straight, pitch 2.54 mm	Fischer Elektronik	SL1.025.36Z	sil2e	K1
2-way socket SIL, straight, pitch 2.54 mm	Fischer Elektronik	BL1.36Z		K1
Faston, through hole, lead spacing 5.08 mm	TE Connectivity/Amp	62650-1	Vlakstekker2p	K2-K6
3-way PCB terminal block, pitch 5 mm	IMO Precision Control	20.101M/3	3-CONNECT-S	K7
Relay, PCB, SPCO, 16 A, 48 V/5.52 kΩ	TE Connectivity/Schra	RT314048	RT314024	RE1
thermal pad TO-220, Kapton MT Film, 0.15 mm, 6 kV,	Bergquist	K6-54		T1-T3
thermal pad TO-3P, Kapton MT Film, 015 mm, 6 kV,	Bergquist	K6-104		T4,T5
Bush 3 mm, TO-220	Multicomp	31-35-25GFN		T2,T3
Heat sink 0.7 °C/W, SK 47/100 SA	Fischer Elektronik	SK 47/100 SA		
<i>Misc.</i>				
PCB 110656-1 v1.0	Supplied by Elektor in kit			
Aluminum sheet 80 x 20 x 2mm thick		Heat sink for IC1		IC1
Power Supply (for one amp. only)				
Power transformer: sec. 2x40V, 500VA, (e.g. Nuvotem 0500P1-2-040 for 230 VAC mains)				
Bridge rectifier: 200V, 35A (e.g. GBPC3502 Fairchild)				

10,000uF 100V, (2 in parallel on each supply rail)				
an optional choice is a SMPS PSU at \$83, http://connexelectronic.com/product_info.php/products_id/118?osCsid=73i5msa3q1km0arpf41l87dq07				

OR ONE AMPLIFIER ONLY

Qty	Farnell - http://export.farnell.com/	Digikey - http://www.digikey.co.uk	RS	if not available recommended part used
31				
2	9339477		707-7634	Pk of 10 in basket Farnell
7	9339191		135-932 / 707-7760	Pk of 10 in basket Farnell
1	9339728		386-363	Pk of 10 in basket Farnell
3	9339124		707-7678 / 135-853	Pk of 10 in basket Farnell
1	9339299		707-7612 / 135-819	Pk of 10 in basket Farnell
2	9339043		707-7587 / 135-774	Pk of 10 in basket Farnell
2	1108093		none	2 off in basket Farnell
2	1903910		none	2 off in basket Farnell
1	9339329		136-020 / 806-6500	Pk of 10 in basket Farnell
2	1186248		247-7749 / 830-7520	Pk of 10 in basket Farnell
1	9339370		386-547	Pk of 10 in basket Farnell
1	9339566		707-7883 / 806-6493	Pk of 10 in basket Farnell
1	9339086		136-058 / 707-7903	Pk of 10 in basket Farnell
2	9339744		502-0611	Pk of 10 in basket Farnell
1	9339671		806-6528	Pk of 10 in basket Farnell
1	9339051		707-7666 / 135-847	Pk of 10 in basket Farnell
1	1227535		none	1 off in basket Farnell
16				
1	9752315		715-2906 / 684-2059	1 off in basket Farnell

1	1200731		166-5844	Farnell equiv. 9751009, EPCOS B32529C6102K000 Film Capacitor, B32529 Series, 1000 pF, ± 10%, PET (Polyester), 400 V, Pk of 5 basket Farnell
1	(original number 1215716)		495-650	item replaced due to cost £8.85, use an 18pF 500V, FARNELL - Cornell Dubilier CD15CD180DO3F CAP, SILVER MICA, 18PF, 500V, RAD, Code 1264870
3	1200728		108-2700	Farnell equiv. 9750983, EPCOS B32529C1104K000 Film Capacitor, B32529 Series, 0.1 µF, ± 10%, PET (Polyester), 100 V, Pk of 5 basket Farnell
1	9753044		668-9993	1 off in basket Farnell
2	1198728	565-2715-ND, using exact information given this one is available from Digikey. In data sheet it shows ESR as 0.053	RS do not stock anything similar that have same dia., voltage & ESR	no longer made (Farnell), has ESR 0.071ohm
1	1890140		108-5440	Pk of 5 in basket Farnell
1	9752986		712-3709	Pk of 5 in basket Farnell

3	9451560		365-4470	3 off in basket Farnell
1	9693238		228-7142	5 off in basket Farnell
1	1236663		not available	1 off in basket Farnell
1				
1			not available	check where to obtain - 450nH: 13 turns 14AWG (1.5 mm) enameled copper wire, 7mm inside diam. Farnell have 1230987 15AWG, 1.5mm. external dia. RS Components do not stock 1.5mm
19				
2	1779207		only in large quantity	2 off in basket Farnell
2	1843708		628-9029	2 off in basket Farnell
1	9565124		544-3480	1 off in basket Farnell
1	1142517		228-5916	Pk of 10 in basket Farnell
1	1015770		463-044 Pk of 20	1 off in basket Farnell
1	9556621		463-634 / 102-1375	1 off in basket Farnell
1	9556630		464-158 / 102-2276	1 off in basket Farnell
1	1856778		Semelab MG6330-R NPN Bipolar Transistor, 15A, 260V, 3-Pin TO-3P RS Stock No.737-8874, £5.68 each	1 off in basket Farnell (low in stock)

1	1856776		Semelab MG9410-R PNP Bipolar Transistor, 15A, 260V, 3-Pin TO-3P RS Stock No.737-8870, £3.99 each	not available in Farnell, no Longer manufactured
5	1653603		544-9955	5 off in basket Farnell
1	1685355		517-141	1 off in basket Farnell
1	1219410		236-8651 OPA177GP	1 off in basket Farnell
1	1244500		597-289 4N25	1 off in basket Farnell
1	9729038		only SL1/25/36G type available	Pk off 5 in basket Farnell
1	9728856		as above not available?	1 off in basket Farnell
5	2101905		not available	5 off in basket Farnell
1	9632689			Pk of 5 in basket Farnell
1	1629046			1 off in basket Farnell
3	2097550			1 pk in basket Farnell
2	681090			1 pk in basket Farnell
2	936649			1 pk in basket Farnell
1	4621890	Not in kit		1 off in basket Farnell
1		Not in kit		
			223-8285 £54	This tx has 2 x 40V a.c. o/p, secondary current rated at 6.25 amps
			903-4245 £1.76 pk of 5	

	see Right	see Right	>>>>>	Many types available in Farnell & Digikey, prices vary £20 to £30~ each