



**ES31-Main [ES31 - Stereo Output Module Component Kit]**

Item	Description	Qty	Designator	Package
<b>CAPACITOR</b>				
1	47pF 5% Ceramic	8	C201, C203, C301, C303, C401, C403, C501, C503	RAD-0.2N
2	100nF Ceramic	8	C603, C604, C605, C606, C607, C608, C609, C610	RAD-0.2N
3	10uF 35V Electrolytic	2	C601, C602	RB-D5.0-P2.0
4	10uF Bipolar Electrolytic	8	C202, C204, C302, C304, C402, C404, C502, C504	RB-D6.3-P2.5
<b>CONNECTOR</b>				
5	3-way 0.1inch Crimp Housing	2	J401, J501	2.54MM
6	3-way 0.1inch Straight Header	2	J401, J501	2.54MM
7	CRIMP - KK254	6	J401^3, J501^3	-
8	IDC16 Box Header	1	J102	2.54MM
9	8-pin IC Socket 0.3inch	4	U201, U301, U401, U501	DIP-8
10	1x4 Pin 9mm Header	1	J203	2.54MM
11	IDC10 Box Header	1	J601	2.54MM
<b>HARDWARE</b>				
12	Equipment Wire 7/0.2 Brown [@ 1cm]	12	J401^6, J501^6 NB: Tip	-
13	Equipment Wire 7/0.2 Red [@ 1cm]	12	J401^6, J501^6 NB: Sleeve	-
14	Equipment Wire 7/0.2 Orange [@ 1cm]	12	J401^6, J501^6 NB: Ring	-
<b>LINEAR</b>				
15	RC4559 - Hi-Performance Dual Opamp	2	U401, U501	DIP-8
16	TL072 Dual JFET Opamp	2	U201, U301	DIP-8
<b>INDUCTOR</b>				
17	Ferrite Bead - 5A	2	L601, L602	AXIAL-0.3
<b>POTENTIOMETER</b>				
18	100KB LIN - 18T Spline	1	P101	ALPHA 16MM





**Column 1 [ES30 - Stereo Panner Mixer Component Kit]**

Item	Description	Qty	Designator	Package
	<b>CAPACITOR</b>			
1	100nF Ceramic	2	C201, C202	RAD-0.2N
	<b>CONNECTOR</b>			
2	8-pin IC Socket 0.3inch	3	Q1, Q2, Q3	DIP-8
3	1x4 Pin 16mm Header	1	J202	-
4	1x4 Pin 9mm Header	1	J102	2.54MM
5	14-pin IC Socket 0.3inch	1	U101	DIP-14
6	IDC16 RA Box Header	1	J201	2.54MM
	<b>DIODE</b>			
7	1N4148	1	D101	DIODE-0.3
	<b>LINEAR</b>			
8	LM3900 - Quad Norton Amplifier	1	U101	DIP-14
	<b>POTENTIOMETER</b>			
9	50KB LIN - 18T Spline	3	P101, P102, P105	ALPHA 16MM
	<b>RESISTOR</b>			
10	5K11 1% 0.5W Metal Film	4	R110, R112, R116, R118	AXIAL-0.4
11	16K2 1% 0.5W Metal Film	1	R123	AXIAL-0.4
12	33K 1% 0.5W Metal Film	1	R124 NB: Fit across J102	AXIAL-0.4
13	37K4 1% 0.5W Metal Film	2	R107, R113	AXIAL-0.4
14	57K6 1% 0.5W Metal Film	2	R109, R115	AXIAL-0.4
15	63K4 1% 0.5W Metal Film	1	R108	AXIAL-0.4
16	200K 1% 0.5W Metal Film	2	R119, R121	AXIAL-0.4
17	360K 1% 0.5W Metal Film	2	R120, R122	AXIAL-0.4
18	402K 1% 0.5W Metal Film	1	R103	AXIAL-0.4
19	470K 1% 0.5W Metal Film	2	R111, R117	AXIAL-0.4
20	806K 1% 0.5W Metal Film	1	R102	AXIAL-0.4
21	1M5 1% 0.5W Metal Film	1	R106	AXIAL-0.4



**Column 2 [ES30 - Stereo Panner Mixer Component Kit]**

Item	Description	Qty	Designator	Package
	<b>CAPACITOR</b>			
1	100nF Ceramic	2	C201, C202	RAD-0.2N
	<b>CONNECTOR</b>			
2	8-pin IC Socket 0.3inch	3	Q1, Q2, Q3	DIP-8
3	1x4 Pin 16mm Header	1	J202	-
4	1x4 Pin 9mm Header	1	J102	2.54MM
5	14-pin IC Socket 0.3inch	1	U101	DIP-14
6	IDC16 RA Box Header	1	J201	2.54MM
	<b>DIODE</b>			
7	1N4148	1	D101	DIODE-0.3
	<b>LINEAR</b>			
8	LM3900 - Quad Norton Amplifier	1	U101	DIP-14
	<b>POTENTIOMETER</b>			
9	50KB LIN - 18T Spline	3	P101, P102, P105	ALPHA 16MM
	<b>RESISTOR</b>			
10	5K11 1% 0.5W Metal Film	4	R110, R112, R116, R118	AXIAL-0.4
11	16K2 1% 0.5W Metal Film	1	R123	AXIAL-0.4
12	33K 1% 0.5W Metal Film	1	R124 NB: Fit across J102	AXIAL-0.4
13	37K4 1% 0.5W Metal Film	2	R107, R113	AXIAL-0.4
14	57K6 1% 0.5W Metal Film	2	R109, R115	AXIAL-0.4
15	63K4 1% 0.5W Metal Film	1	R108	AXIAL-0.4
16	200K 1% 0.5W Metal Film	2	R119, R121	AXIAL-0.4
17	360K 1% 0.5W Metal Film	2	R120, R122	AXIAL-0.4
18	402K 1% 0.5W Metal Film	1	R103	AXIAL-0.4
19	470K 1% 0.5W Metal Film	2	R111, R117	AXIAL-0.4
20	806K 1% 0.5W Metal Film	1	R102	AXIAL-0.4
21	1M5 1% 0.5W Metal Film	1	R106	AXIAL-0.4



Bill of Materials for ES31 - Stereo Output Module [4mm] Full Kit V0.0  
**ES30-Main [ES30 - Stereo Panner Mixer Component Kit]**

Item	Description	Qty	Designator	Package
<b>CAPACITOR</b>				
1	82pF 5% Ceramic	4	C103, C106, C203, C206	RAD-0.2N
2	33nF 63V Polyester	4	C102, C105, C202, C205	RAD-0.2
3	100nF Ceramic	6	C303, C304, C305, C306, C307, C308	RAD-0.2N
4	330nF 63V Polyester	4	C101, C104, C201, C204	RAD-0.2
5	10uF 35V Electrolytic	2	C301, C302	RB-D5.0-P2.0
<b>CONNECTOR</b>				
6	8-pin IC Socket 0.3inch	2	U102, U202	DIP-8
7	IDC16 Box Header	2	J101, J202	2.54MM
8	14-pin IC Socket 0.3inch	1	U102	DIP-14
9	IDC16 Receptacle	2	J102, J201	2.54MM
10	16-pin IC Socket 0.3inch	2	U101, U201	DIP-16
<b>LINEAR</b>				
11	LM13700 - Dual OTA	2	U101, U201	DIP-16
12	TL074 Quad JFET Opamp	1	U102	DIP-14
<b>INDUCTOR</b>				
13	Ferrite Bead - 5A	2	L301, L302	AXIAL-0.3
<b>RESISTOR</b>				
14	330R 1% 0.5W Metal Film	2	R207, R214	AXIAL-0.4
15	22K 1% 0.5W Metal Film	8	R102, R104, R108, R110, R202, R204, R209, R211	AXIAL-0.4
16	47K5 1% 0.5W Metal Film	4	R101, R107, R201, R208	AXIAL-0.4
17	68K 1% 0.5W Metal Film	8	R105, R106, R111, R112, R205, R206, R212, R213	AXIAL-0.4
18	10M 1% 0.5W Metal Film	4	R103, R109, R203, R210	AXIAL-0.4
<b>TRIMPOT</b>				
19	2K MTV Cermet	4	P101, P102, P201, P202	T93YA







