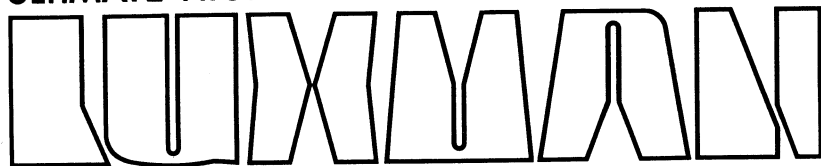


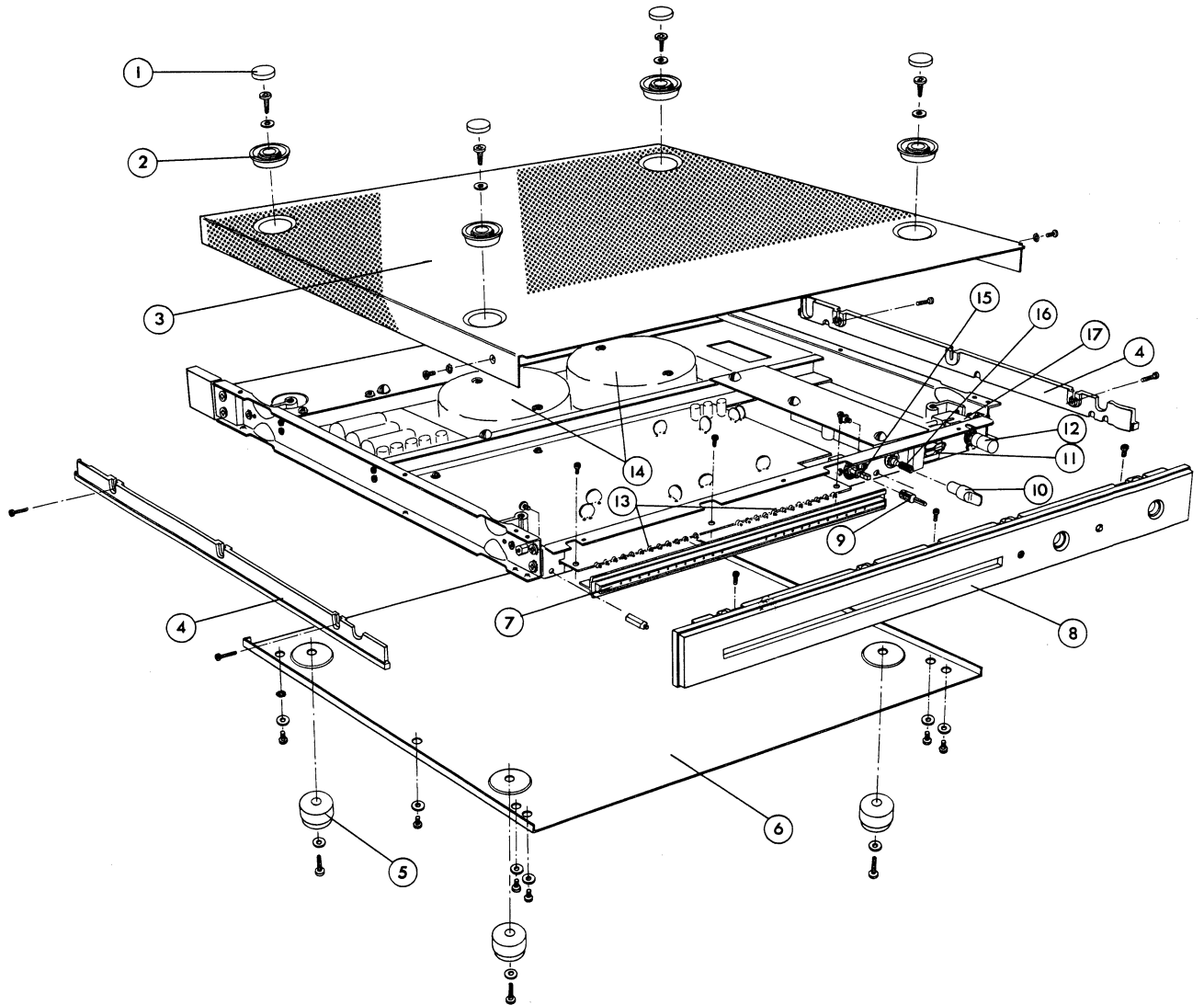
ULTIMATE HIGH FIDELITY STEREO COMPONENTS



LABORATORY  
REFERENCE  
SERIES

**5E24**

**SERVICE MANUAL**



- |            |                  |            |                      |
|------------|------------------|------------|----------------------|
| 1. UW1073  | Spacer           | 11. AL0041 | Lamp 12V 75mA        |
| 2. UW1072  | Spacer           | 12. WJ1073 | Mould Knob           |
| 3. UG1001  | Bonnet           | 13. TD0096 | LED SLC25UR (RED)    |
| 4. WC1029  | Side Mould Plate | 14. PT2113 | Power Transformer    |
| 5. WN1010  | Leg              | PT2114     | Power Transformer    |
| 6. UE1089  | Bottom Plate     | PT2123     | Power Transformer    |
| 7. WD1063  | Escutcheon       | PT2124     | Power Transformer    |
| 8. WA1078  | Front Panel      | 15. SP0037 | Push Sw.(power) 10A  |
| 9. WK1091  | Metal Knob       | 16. SP0062 | Multi Sw.            |
| 10. WJ1076 | Mould Knob       | 17. SP0090 | Push Sw. (Peak Hold) |

Level Adjust

Set the Sw201 (input selector switch) to the "0dBV" position. Connect an oscillator to the LOW LEVEL INPUT jack of the 5E24 and apply 1V r.m.s. sine-wave.

Adjust VR101a (L-ch) and VR101b (R-ch) so that the two L.E.D.'s D106a (L-ch) and D106b (R-ch), which indicate 0dB position of the meter, may light up.

Replacement Parts List

Resistor;  $\pm 5\%$ , 1/4 watt unless otherwise specified.

Capacitor; E...electrolytic, c...ceramic, M...mylar

PB-1105

SYMBOL NO.	STOCK NO.	DESCRIPTION	LOCATION	SYMBOL NO.	STOCK NO.	DESCRIPTION	LOCATION
R101ab	RD0030	10k	Z	R144	RN0121	562 $\pm 1\%$	Y
102ab	0035	4.7k	Z	145	RN0117	392 "	Y
103	0019	82k	Z	146	RN0113	280 "	Y
104ab	0030	10k	Z	147	RN0110	196 "	Y
105ab	0030	10k	Z	148	RN0107	140 "	Y
106ab	0030	10k	Z	149	RN0103	97.6 "	X
107ab	0030	10k	Z	150	RN0101	69.8 "	X
108ab	0035	4.7k	Z	151	RN0351	51 "	X
109ab	0019	82k	Z	152	RN0347	36 "	X
110ab	0023	39k	Z	153	RN0343	24 "	X
111ab	0030	10k	Z	154	RN0340	18 "	X
112ab	0030	10k	Z	155	RN0349	43 "	X
113	0019	82k	Z	R156ab -			
114ab	1160	1.8M	Z	163ab	RD0043	1k	X-Y
115ab	0032	8.2k	Z	164ab	0039	2.2k	X
116ab	0024	33k		165ab	0039	2.2k	X
117ab	0030	10k	Y	166ab	0039	2.2k	X
118ab	0056	100	Y	167ab	0039	2.2k	X
119	0038	2.7k	Y	R168ab -			
R120ab -				175ab	0048	470	Y-Y
143ab	0030	10k	X-Y	R176ab -			
				183ab	0046	680	X-X
				184	0039	2.2k	Z

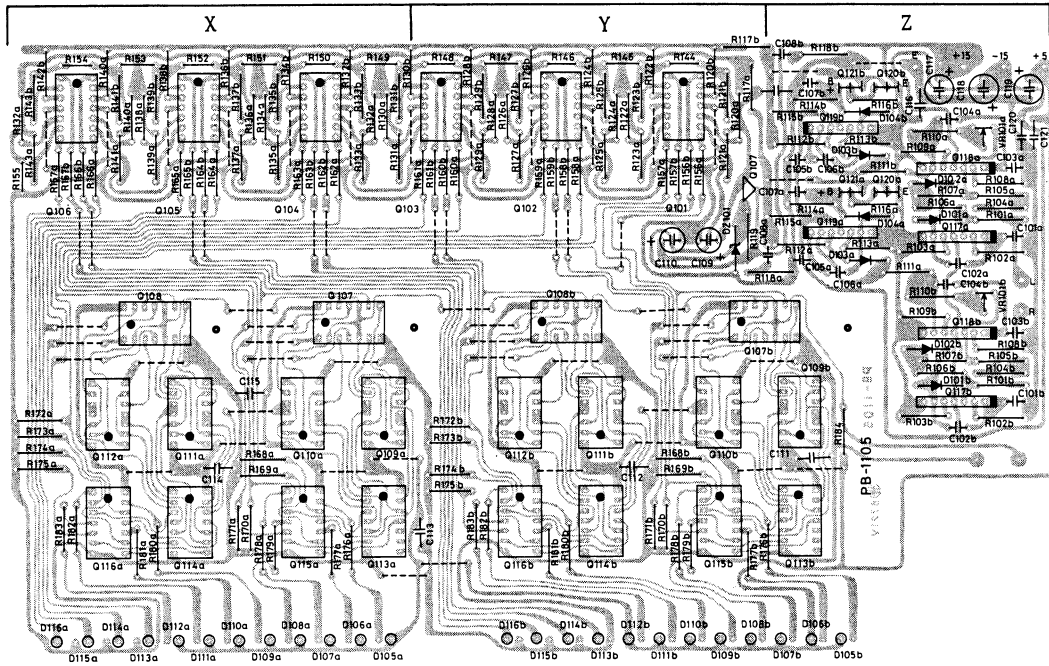
SYMBOL NO.	STOCK NO.	DESCRIPTION	LOCATION	SYMBOL NO.	STOCK NO.	DESCRIPTION	LOCATION
C101ab	CC0006	C 47pF	Z	C110	CE0086	E 25V 10uF	Y
102ab	0004	C 22pF	Z	C111 - 116	CK0159	C 0.1uF	Z-X,Z
103ab	0006	C 47pF	Z	117	CE0118	E 25V 47uF	Z
104ab	0004	C 22pF	Z	118	CE0118	E 25V 47uF	Z
105ab	----	- ---		119	CE0069	E 10V 100uF	Z
106ab	----	- ---		120	CK0159	C 0.1uF	Z
107ab	CQ0005	M 0.1uF	Z	121	CK0159	C 0.1uF	Z
108ab	CC0006	C 47pF	Z	VR101ab	RT0063	22k B	Z
109	CE0086	E 25V 10uF	Y				

SYMBOL NO.	STOCK NO.	DESCRIPTION	LOCATION	SYMBOL NO.	STOCK NO.	DESCRIPTION	LOCATION
Q101 - 106	TC0081	IC HA17902G	Y-X	D101ab -			
107ab -				104ab	TD0073	WG713	Z
112ab	0033	IC HD7400P	X-Y	105ab -			
113ab -				116ab	TD0096	LED LSC25UR	Z
114ab	0038	IC HD7408P	X-Y				
115ab	0035	IC HD7402P	X-Y				
116ab	0035	IC HD7402P	X-Y				
117ab -							
119ab	0013	IC TA7136P	Z				
120ab	TR0125	TR 2SA836	Z				
121ab	TR0025	TR 2SC1345	Z				
107	TR0025	TR 2SC1345	Y				

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SYMBOL NO.	STOCK NO.	DESCRIPTION	LOCATION	SYMBOL NO.	STOCK NO.	DESCRIPTION	LOCATION
R201			X-2	R206	RD0017	100k	X-1
202			X-2	207	0022	47k	X-2
203	RN0392	2700 $\pm 1\%$	X-2	208	0022	47k	X-1
204	RN0392	2700 "	X-2	209	0019	82k	X-2
205	RD0017	100k	X-1	210	0019	82k	X-1

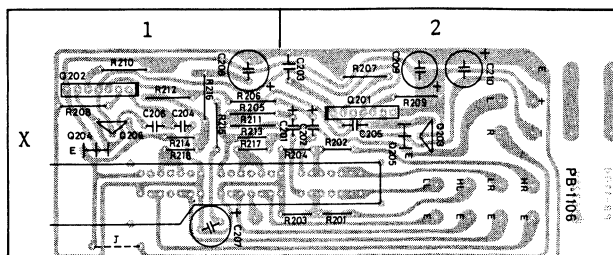
PB-1105



SYMBOL NO.	STOCK NO.	DESCRIPTION	LOCATION	SYMBOL NO.	STOCK NO.	DESCRIPTION	LOCATION
R211	RD0022	47k	X1	R215	RD0043	1k	I1
212	RD0022	47k	X1	216	RD0043	1k	I1
213	RN0043	1k	X1	217	RN0394	3.3k $\pm 1\%$	I1
214	RN0043	1k	X1	218	RN0394	3.3k "	I1

SYMBOL NO.	STOCK NO.	DESCRIPTION	LOCATION	SYMBOL NO.	STOCK NO.	DESCRIPTION	LOCATION
C201	CE0084	E 25V 4.7uF	X2	Q201	TC0013	IC TA7136P	Y2
202	CE0084	E 25V 4.7uF	X2	202	TC0013	IC TA7136P	Y1
203	CC0006	C 47pF	X2	203	TR0025	TR 2SC1345	Y2
204	CC0006	C 47pF	X1	204	TR0025	TR 2SC1345	Y1
205	CC0004	C 22pF	X2	205	TR0125	TR 2SA836	Y2
206	CC0004	C 22pF	X1	206	TR0125	TR 2SA836	Y1
207	CE0087	E 25V 220uF	X1	SW201ab	SR0078	slide rotary	
215	CE0071	E 10V 330uF		201cd	SR0078	slide rotary	

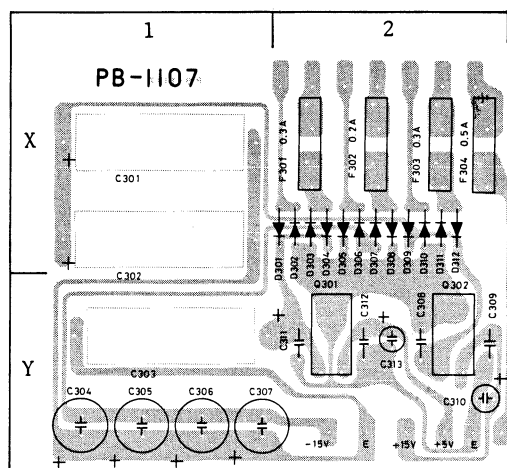
PB-1106



PB-1107

SYMBOL NO.	STOCK NO.	DESCRIPTION	LOCATION	SYMBOL NO.	STOCK NO.	DESCRIPTION	LOCATION
C301	CE1200	E 35V 2200uF	X1	F301	BF0206	fuse 5x20 0.5AT	X2
302	CE1200	E 35V 2200uF	X1	BF0308	"	MF51NR0.5A	
303	CE1188	E 25V 2200uF	X1	302	BF0202	" 5x20 0.2AT	X2
C304 -				303	BF0311	" MF51NR0.2A	
307	CE0145	E 25V 100uF	Y1	304	BF0206	" 5x20 0.5AT	X2
308	CK0159	C 0.1uF	Y2	BF0308	"	MF51NR0.5A	
309	CK0159	C 0.1uF	Y2	304	BF0206	" 5x20 0.5AT	X2
310	CE0144	E 25V 22uF	Y2	BF0308	"	MF51NR0.5A	
311	CK0159	C 0.1uF	Y2	AH0004		PB fuse holder	
312	CK0159	C 0.1uF	Y2	BE0017		Heat sink 1003	
313	CE0066	E 10V 22uF	Y2				
Q301	TC0031	IC TA78005P					
302	TC0032	IC TA78015P					
D301 -							
312	TD0002	Diode 1N4002	X2				

PB-1107



REAR PANEL

SYMBOL NO.	STOCK NO.	DESCRIPTION
	AC0010	AC socket MD40
	AG0063	GND terminal
	AT0015	2P-jack S-Q3253
	UC1049	Rear Panel

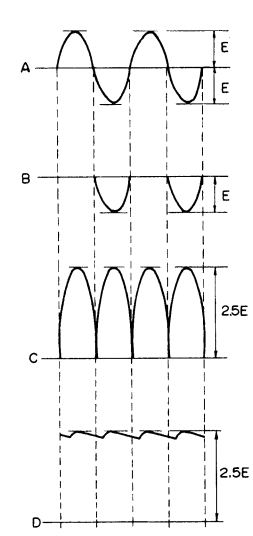
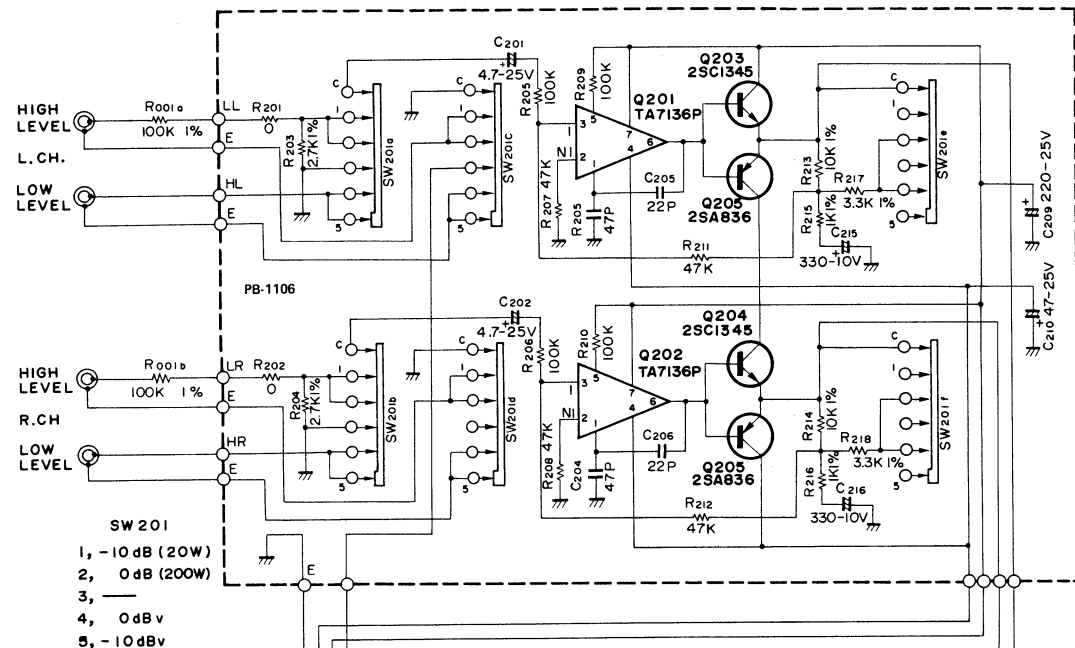
SUB PANEL

SYMBOL NO.	STOCK NO.	DESCRIPTION
SW001ab	AC0041	lamp 12V-75mA
	SP0037	push sw. (power)
	SP0090	push sw. (peak hold)
SW002	SP0062	multi sw. (selector)
	UB1029	sub panel
	WZ1038	LRS lamp holder

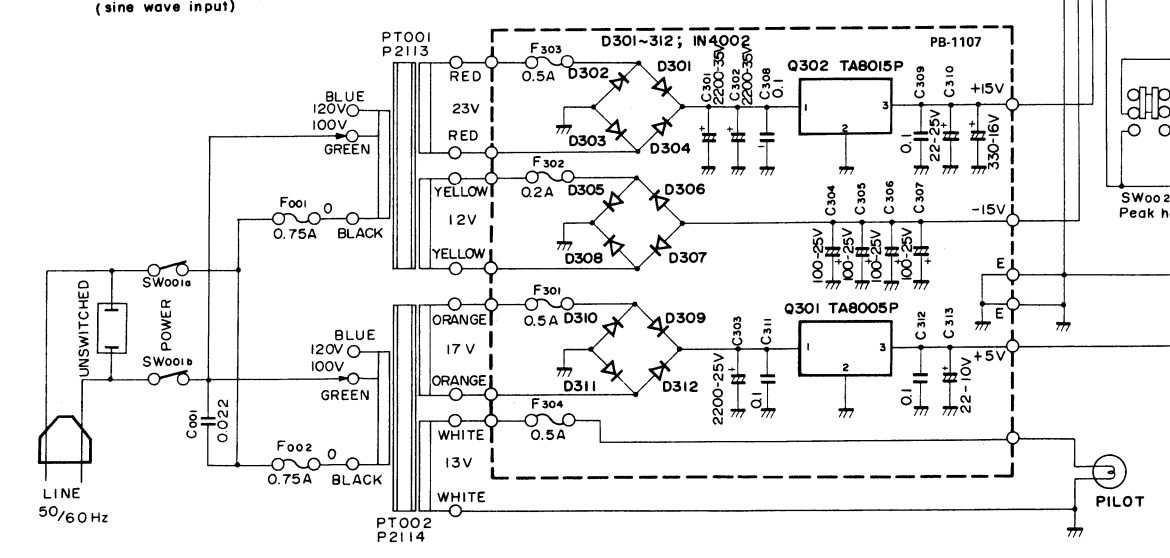
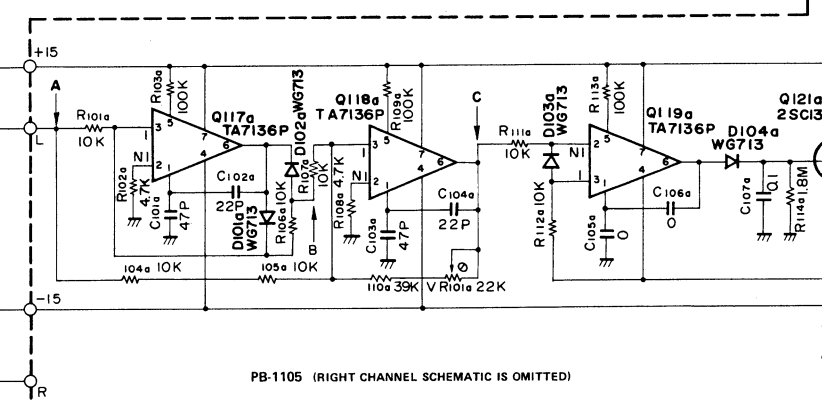
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SYMBOL NO.	STOCK NO.	DESCRIPTION
F001	AH0020	1P Fuse Holder
	AT0049	4P terminal
	BF0206	5x20 0.5A(T)
	0307	MF51NR-0.75A
	0308	MF51NR-0.5A(T)
F002	BF0206	5x20 0.5A(T)
	0307	MF51NR-0.75A
	0308	MF51NR-0.5A
	PT2113	power transformer
	PT2114	" "
	PT2123	" "
	PT2124	" "

SYMBOL NO.	STOCK NO.	DESCRIPTION
R001ab	RN0430	100k $\pm 1\%$
	UD1024	Side Panel
	UE1089	Bottom Plate
	UG1001	Bonnet
	WC1029	Side Mould Plate
	UW1072	Spacer
	UW1073	Spacer
	WJ1073	Mould Knob (power)
	WJ1076	Mould Knob (selector)
	WK1091	Metal Knob (peak hold)
	WN1010	Leg



Waveform (sine wave input)



**5E24**  
LABORATORY REFERENCE SERIES

1. Unless otherwise specified, all resistors are in ohm 1/4 watt, all capacitors are in micro-farad.  
2. Transistors and diodes may be replaced with any types having comparable ratings.  
3. Due to continued improvements LUX reserve the right to alter the circuit or specifications.

