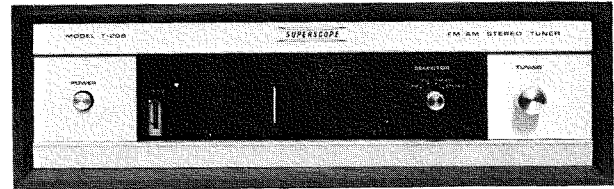


A17933

SUPERSCOPE®

SOLID STATE
STEREO TUNER
Model T—208



SERVICE DATA

—May 1972—

SUPERSCOPE INC.

8150 VINELAND AVENUE,
SUN VALLEY, CALIFORNIA, USA 91352

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TECHNICAL SPECIFICATIONS

⟨PERFORMANCE SPECIFICATION⟩

Frequency range	AM 535-1605 KHz FM 88-108 MHz
Usable sensitivity	AM 20 μ V FM 5 μ V IHF
FM Signal to noise ratio	65 dB
FM selectivity	35 dB
FM harmonic distortion at 1,000 Hz	0.5 %
FM image rejection	50 dB
FM cross modulation ratio	60 dB
FM capture ratio	6 dB
FM stereo separation	36 dB

⟨AUXILIARY CIRCUIT⟩

FM tuning meter. FM stereo indicator lamp. SCA filter

⟨SOLID STATE DEVICES⟩

Transistors	12
Diodes	18

⟨CONTROLS⟩

Selector

AM, FM, FM AFC, FM STEREO

⟨ANTENNA⟩

FM

300 ohm balanced type

AM

Built in ferrite core antenna (with EXT. ANT.)

⟨POWER REQUIREMENTS⟩

Power voltage

120V 50/60 Hz

Power consumption

3.5W MAX.

⟨DIMENSIONS⟩

Width	14-11/32"
Height	4-33/64"
Depth	7-13/32"
Weight	6.6 lbs

* These specifications and exterior designs may be changed for improvement without advance notice.

ALIGNMENT PROCEDURE

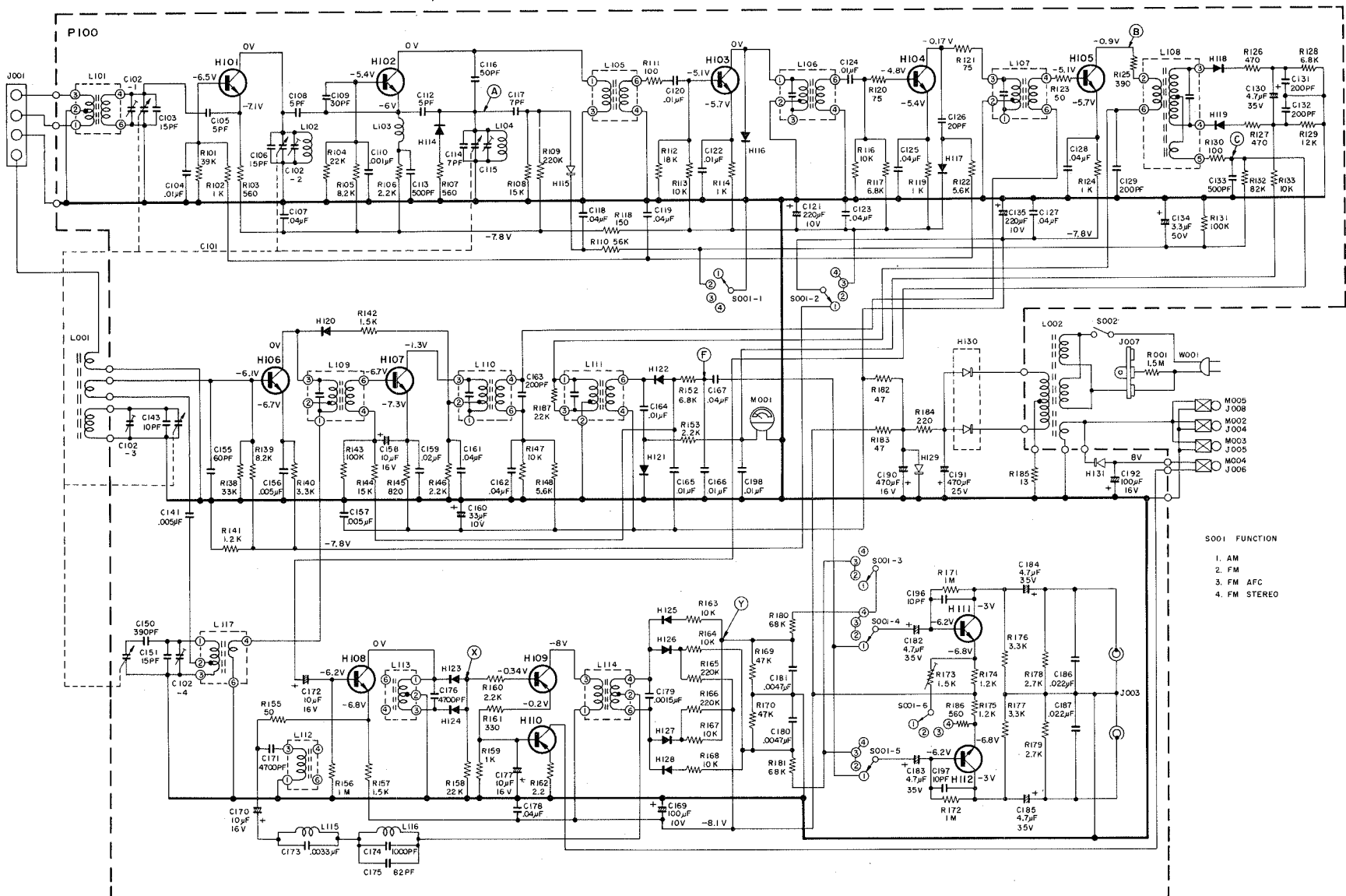
Steps	Connect Signal Source To-	Set Signal To- Insert Marker To-	Connect Alignment Indicator To-	Set Radio Dial To-	Adjust As Indicated
AM IF ALIGNMENT (Function Switch in the position "AM")					
1	Sweep Generator across C101 (AM OSC)	455 KHz	Oscilloscope to-Point $\text{\textcircled{E}}$	Quiet point on band	L109, L110, L111-for max. symmetrical response centered at 455 KHz
AM RF ALIGNMENT (Function Switch in the position "AM")					
2	Connect RF Generator to a short piece of wire or a loop of wire placed near AM antenna.	525 KHz	VTVM-as audio meter- across dummy resistor between the output terminals.	525 KHz (Tuning gang closed)	L117-for maximum
3		1650 KHz		1650 KHz (Tuning gang open)	C102-4- FOR MAXIMUM
4		600 KHz		600 KHz	L001 (AM)-for maximum
5		1400 KHz		1400 KHz	C102-3- for maximum
6		Repeat 2, 3, 4 & 5 as necessary to obtain maximum sensitivity.			
FM IF ALIGNMENT (Function Switch in the position "FM")					
1	Sweep Generator to Point $\text{\textcircled{A}}$	10.7 MHz Marker at 10.6, 10.7 and 10.8 MHz	Oscilloscope to point $\text{\textcircled{B}}$ through a diode	Quiet point on band	L105, L106, L107, L108 for max. symmetrical response centered at 10.7 MHz
RATIO DETECTOR ALIGNMENT (Function Switch in the position "FM")					
2	Sweep Generator to point $\text{\textcircled{A}}$	10.7 MHz Marker at 10.6, 10.7 and 10.8 MHz	Oscilloscope to point $\text{\textcircled{C}}$ through a diode	Quiet point on band	L108-for straightness and symmetry of response curve at 10.7 MHz marker
3	Repeat 1 & 2 as necessary.				
FM RF ALIGNMENT (Function Switch in the position "FM")					
1	FM Generator to FM antenna terminals through matching network (Antenna impedance 300 ohms balanced)	87 MHz	VTVM as an audio meter- across a dummy resistor 100K ohms (A dummy resistor of 100K ohms must be connected between output terminals, before alignment.)	87.0 MHz (Tuning gang closed)	L104-for maximum
2		109 MHz		109 MHz (Tuning gang open)	C115-for maximum
3		90 MHz		90 MHz	L102 & L101-for maximum
4		106 MHz		106 MHz	C102-1&C102-2 for maximum
5		Repeat 1, 2, 3 & 4 as necessary.			
6	Check overall response curve and repeat above steps as necessary to obtain maximum sensitivity.				

MULTIPLEX ALIGNMENT PROCEDURE

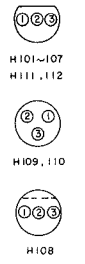
Steps	Audio Freq. Sel. Set To-	Function Switch Set To-	Output Indicator Connect To-	Adjust As Indicated	
1	19 KHz (Pilot Signal on FM STEREO Simulator)	PILOT	VTVM to point $\text{\textcircled{X}}$	L112 (19 KHz TANK) for maximum	
2				L113 (19 KHz TANK) for maximum	
3			Repeat steps 1 and 2 until maximum is obtained.		
4			VTVM to point $\text{\textcircled{Y}}$	L114 (38 KHz TANK) for maximum	
5	1000 Kz	STEREO LEFT	VTVM across dummy resistor of 100K ohms connected between RIGHT channel output terminals.	L114 (38 KHz TANK) for minimum (Rotate the slug core within 1/2 turn.)	
6		STEREO RIGHT	VTVM across dummy resistor of 100K ohms connected between LEFT channel output terminals	L114 (38 KHz TANK) for minimum (Rotate the slug core within 1/2 turn.)	
7		Repeat step 5 and 6 until absolute minimum is achieved.			
8		STEREO L=R	Oscilloscope to point $\text{\textcircled{Z}}$	Check there is no over-modulation. If there is over-modulation, repeat steps 4, 6 and 7.	

SCHEMATIC DIAGRAM

H101	H102,103,106,107	H104,105	H108	H109	H110	H111,112	H114,116-128	H115	H129	H130	H131
HT308291A (2SC829A)	HT308291B (2SC829B)	HT308291C (2SC829C)	HT3037210 (2SC372)	HT200541B (2SB54B)	HT200561C (2SB56C)	HT306441B (2SC644S)	HD1000101 (1N34A)	HD4000109 (1S352M)	HD3000409 (1S333)	HD2000610	HD2000110 (1S166S)

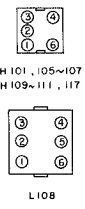


TRANSISTOR CONNECTIONS
(BOTTOM VIEW)



1: EMITTER 2: COLLECTOR 3: BASE

COIL CONNECTIONS
(BOTTOM VIEW)

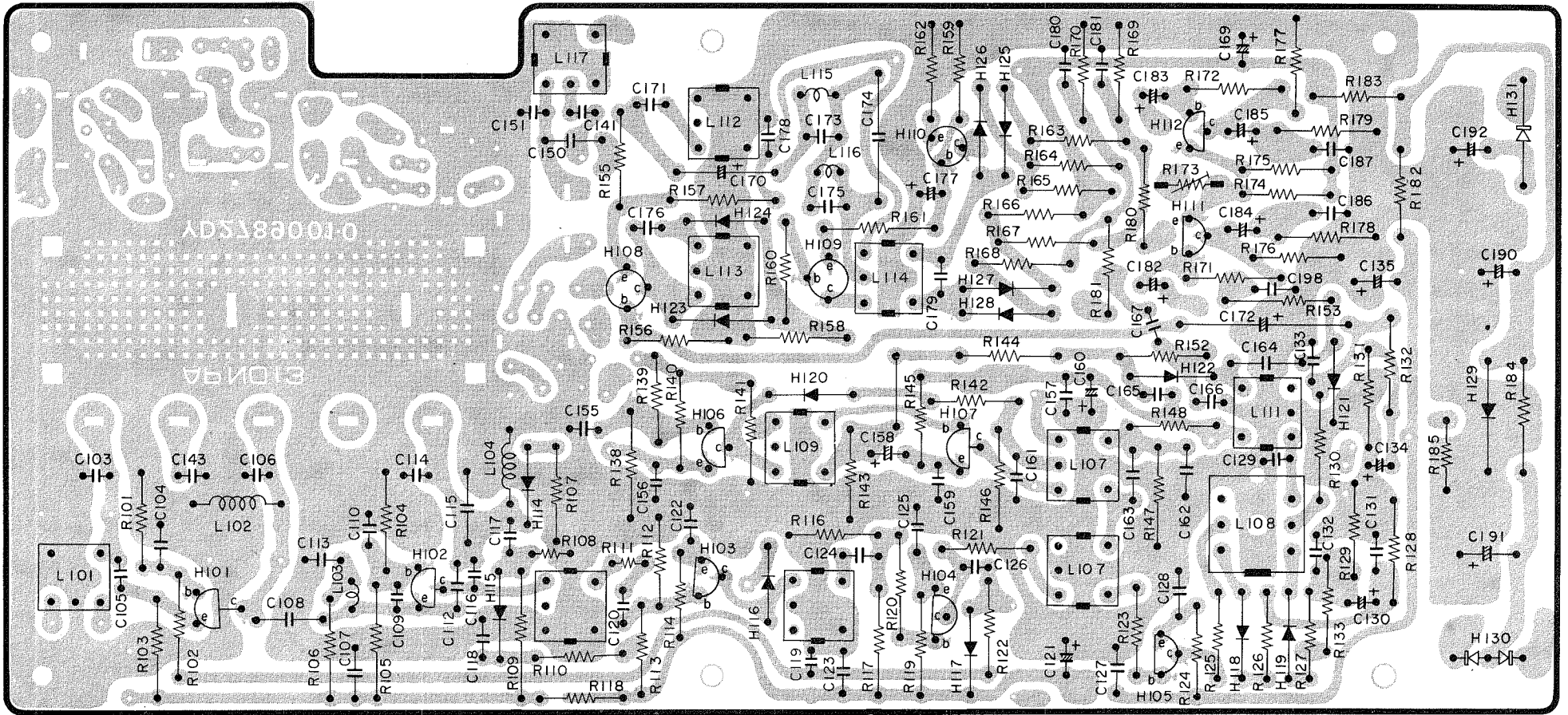


S001 FUNCTION

1. AM
2. FM
3. FM AFC
4. FM STEREO

3

CIRCUIT BOARD DIAGRAM (TOP VIEW)



PARTS LIST

REF. DESIG.	PART NO.	DESCRIPTION	REF. DESIG.	Parts No.	DESCRIPTION
		MECHANICAL PARTS			
A	286206340	Escutcheon Assembly	0421	51100430A	B.H.M Screw x 4
0101	286206301	Escutcheon	0422	54020401E	Flat Washer P x 4
0102	286206302	Escutcheon	0430	51570306B	P.H. Tapt Screw x 6
0103	286206303	Escutcheon	0431	51570306B	P.H. Tapt Screw x 2
0117	286215801	Window	0432	51570306B	P.H. Tapt Screw x 2
0130	286025901	Bush	0433	51570306B	P.H. Tapt Screw
0228	278916003	Bracket x 2	0501	51650304D	Set Screw HP x 2
0327	73056008C	Buffer x 2	0504	53110303E	Hexagon Nut x 2
0425	51040306A	F.H.M Screw x 2	0507	54020301E	Flat Washer P x 2
0426	51040306A	F.H.M Screw x 2	0510	54040302A	Spring Washer x 2
B	286015440	Knob Assembly			ELECTRICAL PARTS
0106	278915404	Knob			All resistor are
0105	257706702	Cap			RESISTORS 1/4W, 10% unless
					otherwise noted.
C	286230240	Dial Assembly	R101	RT1039314	39K Ω
0118	286230201	Dial	R102	RT1010214	1K Ω
0317	286205301	Cover*	R103	RT1056114	560 Ω
0318	280905304	Cover	R104	RT1022314	22K Ω
			R105	RT1082214	8.2K Ω
0110	286226501	Indicator	R106	RT1022214	2.2K Ω
0116	286206401	Case	R107	RT1056114	560 Ω
0117	286215801	Window	R108	RT1015314	15K Ω
0121	286415403	Knob	R109	RT1022414	220K Ω
0122	286315401	Knob	R110	RT1056314	56K Ω
0126	286405701	Leg x 4	R111	RT1010114	100 Ω
0201	286210501	Chassis	R112	RT1018314	18K Ω
0202	286216050	Bracket K	R113	RT1010314	10K Ω
0203	286216001	Bracket	R114	RT1010214	1K Ω
0204	137011203	Shaft x 3	R116	RT1010314	10K Ω
0205	127126201	Pulley x 3	R117	RT1068214	6.8K Ω
0210	278927401	Reflector	R118	RT1015114	150 Ω
0211	260026251	Pulley K	R119	RT1010214	1K Ω
			R120	RT1075014	75 Ω
0212	260016005	Bracket	R121	RT1075014	75 Ω
0213	137011203	Shaft	R122	RT1056214	5.6K Ω
0214	127126201	Pulley	R123	RT1050014	50 Ω
0217	278927350	Fly Wheel K	R124	RT1010214	1K Ω
0218	278916002	Bracket	R125	RT1039114	390 Ω
0219	278911201	Shaft	R126	RT1047114	470 Ω
0220	149427301	Fly Wheel	R127	RT1047114	470 Ω
0221	53110403E	Hexagon Nut	R128	RT1068214	6.8K Ω
0222	64000400R	RG Ring E	R129	RT1012314	12K Ω
0223	712007890	Spring	R130	RT1010114	100 Ω
			R131	RT1010414	100K Ω
0224	51022604E	R.H.M Screw	R132	RT1082314	82K Ω
0229	278916004	Bracket	R133	RT1010314	10K Ω
0301	260026251	Pulley K	R138	RT1033314	33K Ω
0302	260016005	Bracket	R139	RT1082214	8.2K Ω
0303	137011203	Shaft	R140	RT1033214	3.3K Ω
0304	127126201	Pulley	R141	RT1012214	1.2K Ω
0307	126615901	Drum	R142	RT1015214	1.5K Ω
0309	273105302	Cover	R143	RT1010414	100K Ω
0312	71400219Q	Spring	R144	RT1015314	15K Ω
0313	71101049M	Spring	R145	RT1082114	820 Ω
			R146	RT1022214	2.2K Ω
0321	276325901	Bush	R147	RT1010314	10K Ω
0322	145525901	Bush	R148	RT1056214	5.6K Ω
0324	150227101	Holder x 2	R152	RT1068214	6.8K Ω
0328	286205601	Buffer	R153	RT1015214	1.5K Ω
0330	72081604A	String x 150	R155	RT1050014	50 Ω
0332	951020102	UL Label	R156	RT1010514	1M Ω
0333	257886101	CAUTION Label	R157	RT1015214	1.5K Ω
0401	51060304A	P.H.M Screw x 4	R158	RT1022314	22K Ω
0402	51060304A	P.H.M Screw x 4	R159	RT1010214	1K Ω
0403	51060304A	P.H.M Screw x 2	R160	RT1022214	2.2K Ω
			R161	RT1033114	330 Ω
0404	51060304A	P.H.M Screw	R162	RC1002212	2.2 Ω $\pm 10\%$, 1/2W
0405	51060304A	P.H.M Screw	R163	RT1010314	10K Ω
0406	51060304A	P.H.M Screw x 3	R164	RT1010314	10K Ω
0407	51060304A	P.H.M Screw x 3	R165	RT1022414	220K Ω
0408	51060304A	P.H.M Screw x 2	R166	RT1022414	220K Ω
0411	51060304A	P.H.M Screw x 2	R167	RT1010314	10K Ω
0412	51060304A	P.H.M Screw x 3	R168	RT1010314	10K Ω
0416	51060308A	P.H.M Screw x 2	R169	RT1047314	47K Ω
0417	51060308A	P.H.M Screw x 2	R170	RT1047314	47K Ω
			R171	RT1010514	1M Ω

REF. DESIG.	PART NO.	DESCRIPTION	REF. DESIG.	PART NO.	DESCRIPTION
J001	YT0104007	Antenna Terminal	S001	SR0604007	Rotary Switch
J003	YT0202008	Output Terminal	S002	SP0101005	Push Switch
J004	YJ0200044	Lamp Socket	R001	RC1015512	Resistor 1.5M Ω , \pm 10%, 1/2W
J005	YJ0200046	Lamp Socket	W001	YC0240001	Power Cord
J006	YJ0200007	MPX Lamp Socket	W002	YW2862001	Wire Materials
J007	YL0103018	3P Terminal	W003	YX2862001	Wire Materials
J008	YJ0200044	Lamp Socket	P100	YD2789001	P.C. Board
L001	LF1140054	Ant. Coil			
L002	TS1411901	Power Transf.			