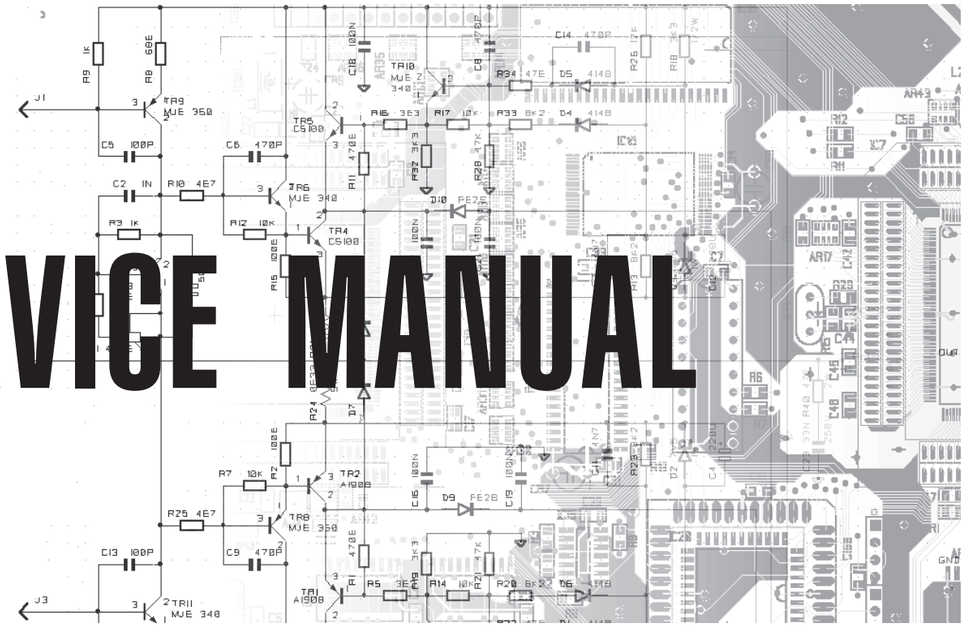
K^3 Active
K^6 Active

SERVICE MANUAL

Second Edition



GENERALMUSIC®

CODE: 270222

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Warnings

Notice

Service must be carried out by qualified personnel only.Any tampering carried out by unqualified personnel during the guarantee period will forfeit the right to guarantee.
For a correct operation of the instrument, after having switched off, be careful to wait at least 3 seconds before switching on again.
To improve the device's specifications, the schematic diagrams may be subject to change without prior notice.
All components marked by this symbol have special safety characteristics, when replacing any of these components use only manufacturer's specified parts.
The (μ) micro symbol of capacitance value is substituted by U.
The (Ω) omega symbol of resistance value is substituted by E.
The electrolytic capacitors are 25Vdc rated voltage unless otherwise specified.
All resistors are 1/8W unless otherwise specified.
All switches shown in the "OFF" position. All DC voltages measured to ground with a voltmeter 20KOhm/V.

- ← Soldering point.
- • Male connector.
- ⊃ Female connector.
- M/F faston connector.
- ↑ Supply voltage.
- ⊡ Test point.
- ⬭ Flag joined with one or more flags with the same signal name inscribed.
- ⏚ Logic supply ground.
- ⏚ Analog supply ground.
- ⏚ Chassis ground.
- ⏚ Earth ground.

ATTENTION

Observe precautions when handling electrostatic sensitive devices.

Address

GENERALMUSIC S.p.A. Sales Division: 47842 S.Giovanni in Marignano (RN) ITALY - Via delle Rose, 12 - tel. 0541/958511 - fax 0541/957404
GENERALMUSIC on the NET: http://www.generalmusic.com

TECHNICAL SPECIFICATIONS

		K 3 Active	K 6 Active
POWER (EIA RS-426A)	Watts EIA	300	550
HANDLING	Watts IHF	350	600
DISTORTION	(THD+N)	<0,02%	<0,02%
INPUT	kohms	30 balanced	31 balanced
IMPEDANCE	kohms	15 unbalanced	15 unbalanced
INPUT SENSITIVITY	dB	0 (0,775 V)	0 (0,775 V)
POWER SUPPLY		230Vac +/-15% 50-60Hz 115Vac +/-15% 50-60Hz	230Vac +/-15% 50-60Hz 115Vac +/-15% 50-60Hz
SENSITIVITY (SPL 1W/1m)	dB	100	100
MAX SPL continous	dB	121	124
MAX SPL peak	dB	124	127
FREQUENCY RESPONSE	Hz (-10dB)	60-20000	50-20000
DISPERSION ANGLE (OxV)	°	60x60	60x60
CROSSOVER FREQUENCY	Hz	1,8kHz at 12-18dB/oct.	1,4kHz at 12-18dB/oct.
COMPONENTS	HIGH LOW	1" driver coaxial 12" woofer	1.5" driver coaxial 15" woofer
CONSTRUCTION		Cabinet: birch polywood. Finish: Black scratch-resistant paint Metal Grille Polyurethane front panel	
CONTROLS		Volume Control. SHIELD Limiter ON/OFF.	
CONNECTIONS		Combo - 1 XLR-M POWERCON power connector	
DIMENSION	mm (WxHxD)	542x496x537	542x656x537
WEIGHT	kg	36	47

BIAS ADJUSTEMENT

Instruments, materials and tools:
- Audio Generator
- Dual Trace Oscilloscope with 10x prober.
- Digital Voltmeter (or Multimeter)
- 8Ω 1000W Resistor
- Temperature Meter

Setup:
- Connect the Audio Generator to the input and set it to output 1KHz sinusoidal signal.
- Connect the Dual Trace Oscilloscope to the input (set CH1trace at 0.5V/div. 200usec./div) and to the output (set CH2 trace at 20V/div. 200usec/div) of the amplifier.

WARNING: The oscilloscope must be earth insulated.
- Insert the temperature sensor through the interstize between the heatsink and R15 (PTC).
- Unconnect amplifier's output from the cross-over and connect the 8Ω 1000W resistor instead of it.
- Insert the voltmeter terminals across R22.

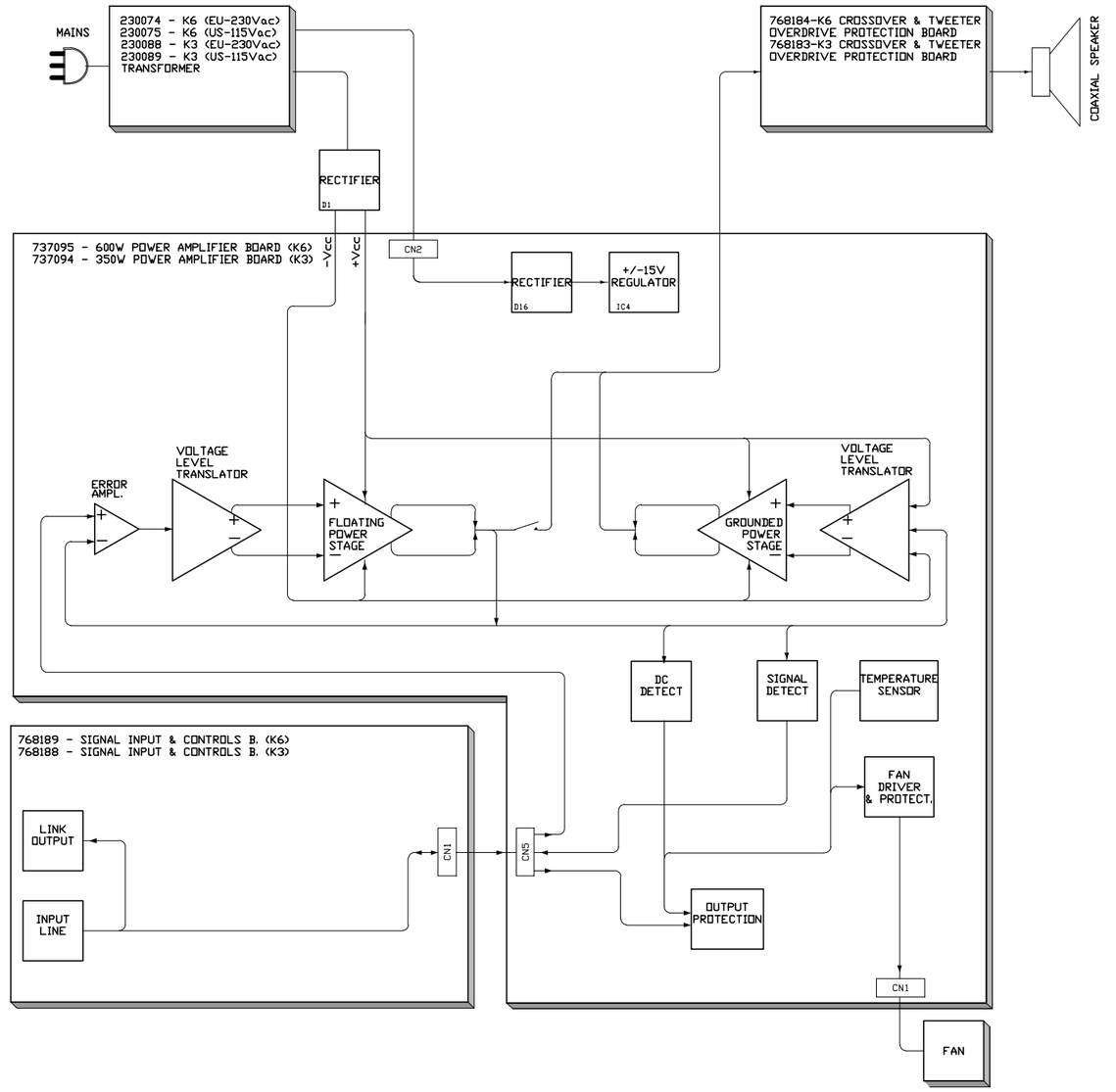
ADJUSTMENT PROCEDURE

1) Turn on the amplifier.
2) Set the input signal to obtain approximatelly 120Vpp on the output.
3) When the temperature has reaches about 50°C (122°F) set the input level to minimum
4) Adjust the trimmer VR1 to read a voltage of 3±0.05mV on the multimeter.
5) Check that the voltage across the R74 resistor has the same value.
6) At the same temperature condition, adjust the VR2 trimmer to read 4±0.05mV across R26 resistor.
7) Check that the voltage on the R78 resistor has the same value.

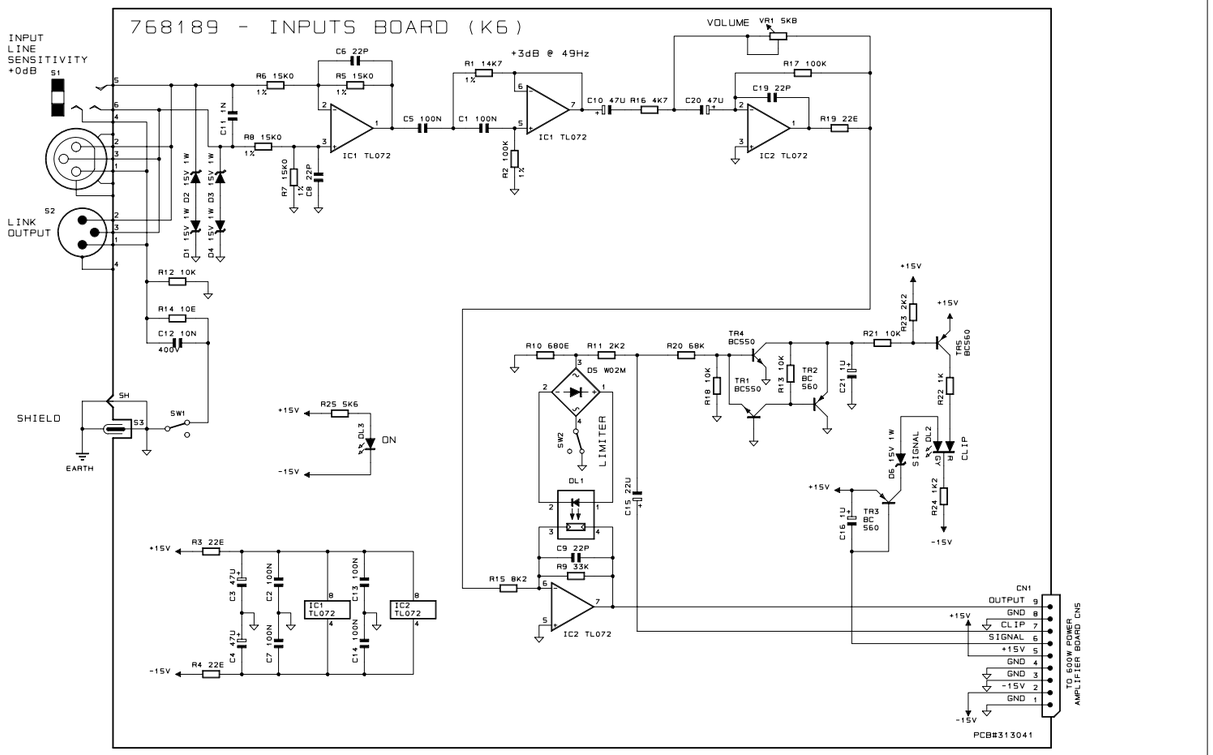
Verifing:

1) Increase the input level to obtain an output voltage about of 0.5Vpp.
2) Check with the oscilloscope that the output signal is without a cross-talk distortion and eventually slightly adjust the VR1 position until distortion disappears.
   (Note: the voltage value across the R22 and across R74 resistor must not exceed 5mV)
3) Re-connect the cooling fan and the crossover instead of the 8Ω 1000W resistor.

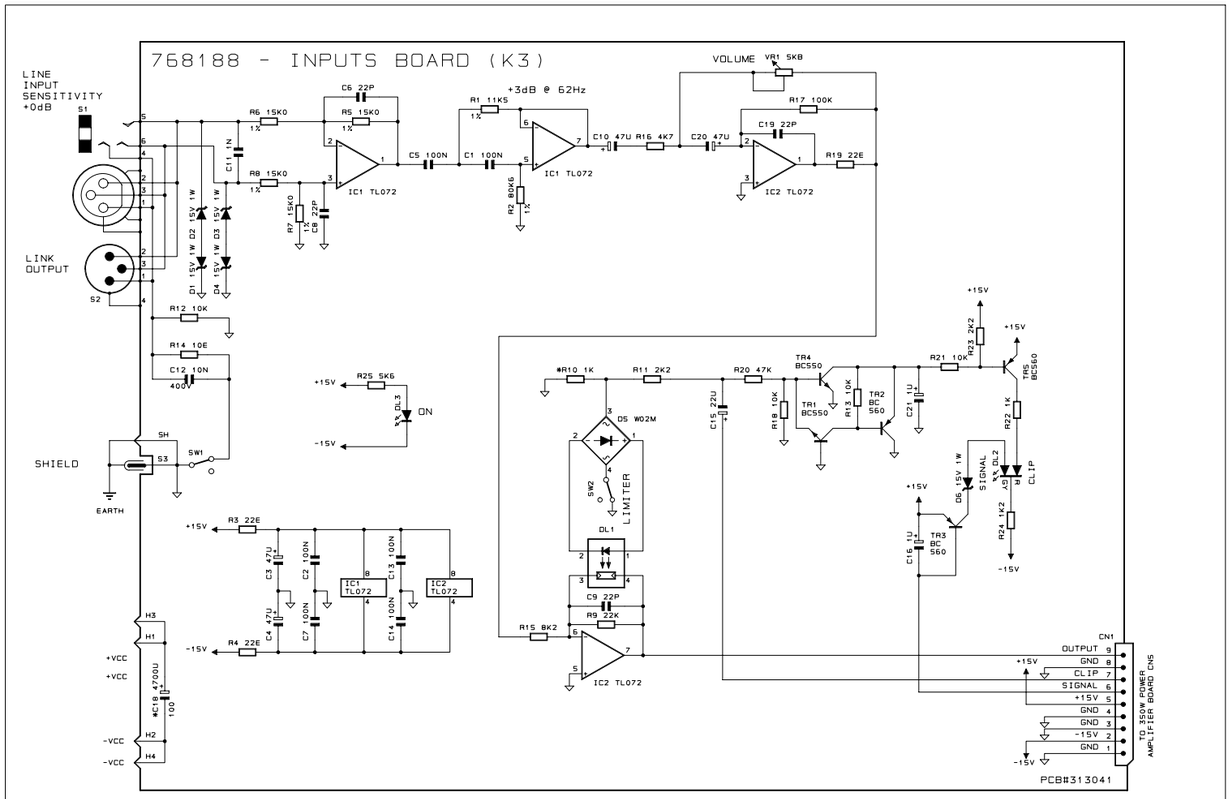
BLOCK DIAGRAM



DRW G. Boccato	DWG# 550613		GENERALMUSIC S.p.A. ITALY
CKD G. Ricci	PART: 1/1	K3 - K6 Active BLOCK DIAGRAM	ALL RIGHTS ARE RESERVED. NO COPIES OR REPRODUCE THIS DOCUMENT WITHOUT WRITTEN CONSENT BY GENERALMUSIC.
APP. R. Magalotti	REV: 7-7-98		



DRW P.R. RENZI	DWG# 550616	PCB# 313041	GENERALMUSIC S.p.A. ITALY
CKD P.R. RENZI	DSK# PART:	SCHEMATIC DIAGRAM K6 ACTIVE INPUTS BOARD	ALL RIGHTS ARE RESERVED. NO COPIES OR REPRODUCE THIS DOCUMENT WITHOUT WRITTEN CONSENT BY GENERALMUSIC.
APP. C.ZUCCATTI	REV: 23-04-98		



DRW P.R. RENZI	DWG# 550615	PCB# 313041	GENERALMUSIC S.p.A. ITALY
CKD P.R. RENZI	DSK# PART:	SCHEMATIC DIAGRAM K3 ACTIVE INPUT BOARD	ALL RIGHTS ARE RESERVED. NO COPIES OR REPRODUCE THIS DOCUMENT WITHOUT WRITTEN CONSENT BY GENERALMUSIC.
APP. C.ZUCCATTI	REV: 23-04-98		

737098
600W POWER AMPLIFIER ASSEMBLY (EU)
737099
600W POWER AMPLIFIER ASSEMBLY (US)
(CHASSIS, INPUTS BOARD AND TRANSFORMER INCLUDED)

737095 - 600W POWER AMPLIFIER BOARD
(CIRCUIT A: SECOND AND THIRD FLOATING AND GROUND POSITIVE STAGES, FLOATING BIAS)

737095 - 600W POWER AMPLIFIER BOARD
(CIRCUIT C: SECOND AND THIRD FLOATING AND GROUND NEGATIVE STAGES, GROUND BIAS)

737095 - 600W POWER AMPLIFIER BOARD
(CIRCUIT B: FIRST STAGE, PROTECTIONS, SUPPLY)

768184 - FILTER BOARD

MAINS LINE
230V +/-15% 50-60Hz
115V +/-15% 50-60Hz

238074 TRANSFORMER (EU)
238075 TRANSFORMER (US)

COAXIAL SPEAKER

DRW BOCCATO	DWG# 550617	PCB# 319040 - 313051	GENERALMUSIC S.p.A.
CKD RICCI	DATE 1/1	DESCRIPTION K6 ACTIVE 600W POWER AMPLIFIER ASSY	ALL RIGHTS ARE RESERVED. NO COPIES OR REPRODUCE THIS DOCUMENT WITHOUT WRITTEN CONSENT BY GENERALMUSIC
APP MAGALOTTI	REV# 16/04/00		

737096
350W POWER AMPLIFIER ASSEMBY (EU)
737097
350W POWER AMPLIFIER ASSEMBY (US)
(CHASSIS, INPUTS BOARD AND TRANSFORMER INCLUDED)

737094 - 350W POWER AMPLIFIER BOARD
(CIRCUIT A:SECOND AND THIRD FLOATING AND GROUND POSITIVE STAGES, FLOATING BIAS)

737094 - 350W POWER AMPLIFIER BOARD
(CIRCUIT C:SECOND AND THIRD FLOATING AND GROUND NEGATIVE STAGES, GROUND BIAS)

737094 - 350W POWER AMPLIFIER BOARD
(CIRCUIT B: FIRST STAGE, PROTECTIONS AND SUPPLY)

768183 - FILTER BOARD

DRW G.BOCCATO	DWG# 550614	PCB# 319040 - 313051	GENERALMUSIC S.p.A. ITALY
CKD G.RICCI	DSK# PART:	SCHEMATIC DIAGRAM K3 ACTIVE	
APP. R.MAGALOTTI	REV: 03/06/00	350W POWER AMPLIFIER ASSY	

Spare Parts List

	Legend
(K3) =	Specify K3 version only
(K6) =	Specify K6 version only
(US) =	Specify USA version
(EU) =	Specify Europe version

Code	*Description*

Optional Accessories

950860		SC20 Metallic Support
950199		SC30 Alluminium Support
950978		SC31 Telescopic Alluminium Support
951136		Mains Link Cable for KL-K6 Active
141208	*	Mains Power Grey Plug (NTPW3FCB Neutrik)
141205	*	Mains Power Blue Plug (NTPW3FCA Neutrik)

Accessories

277329		Owner's Manual
887090		Mains Cable (2.5m) (US)
887089		Mains Cable (2.5m) (EU)
141205	*	Mains Power Blue Plug (NTPW3FCA Neutrik)
130434	*	Mains Cable (US)
130285	*	Mains Cable (EU)
190137		5mm Hexagonal Rod Spanner
120142		6x35 Screw with Hex . Head

Cabinet Assembly

778138		Speakers Cables Assembly
717063		Cabinet Chassis (K6)
717062		Cabinet Chassis (K3)
667678		Metal Grid (K6)
667677		Metal Grid (K3)
347378		Front Panel (K6)
347377		Front Panel (K3)
227054		15" Coaxial Speaker (K6)
227053		12" Coaxial Speaker (K3)
210242		Filler for Speaker Box (Specify mt)
210265		Acoustic Transparent FOAM
190181		Rubber Foot with M8 Screw
177676		Metal Grid Fixing
177325		Bespeco Flange

Filter Board

768184		Filter Board (PCB#313052) (K6)
768183		Filter Board (PCB#313051) (K3)

The service is made only by replacemement of entire board

K6 600W Power Amplifier Assembly

737098		**600W Power Amplifier Assembly (EU)**
737099		**600W Power Amplifier Assembly (US)**
778139	*	Amplifier Cables Assembly
667683	*	Power Amplifier Chassis
659027	*	White Potentiometer Knob
238074	*	Transformer 230Vac 690W (EU) (K6)
238075	*	Transformer 115Vac 690W (US) (K6)
210216	*	Adhesive Rubber Foam 20x5mm (Specify mt)
210215	*	Adhesive Rubber Foam 10x1.9mm (Specify mt)
141204	*	Mains Power Blue Socket (NTPW3MPA Neutrik)
110291	*	Power Switch
110120	*	Fuse Clip (US)
110119	*	Fuse Clip (EU)
110038	*	T16A Fuse 6.3x32mm (US)
110026	*	T1.25A Fuse 6.3x32mm (US)
110013	*	T1.25A Fuse 5x20mm (EU)
080607	*	KBPC25 25A 200V Rectifier Diode Bridge
030890	*	10000u 125V -10+50% V Electrolytic Capacitor VT
020491	*	100nF 10% 250Vac Polyester Capacitor
737095	*	**600W Power Amplifier Board (PCB#319040)**
090924	**	MJL21194 TO264 Npn Transistor
090923	**	MJL21193 TO264 Pnp Transistor
230530	**	1uH 10% 630ma Rf Coil
140917	**	2 Contacts Vert Male Connector
110316	**	Relay 24V / 1 Switch no 16A 250V
100061	**	TL072 Dual J-Fet Operational Amplifier
100060	**	7815 +15V 1A Voltage Regulator
100049	**	7915 -15V 1A Voltage Regulator
090920	**	MJE802 TO126 Npn Darl Transistor
090201	**	2N5401 TO92 Pnp Transistor
090200	**	2N5550 TO92 Npn Transistor
090194	**	BC560 TO92 LN Pnp Transistor
090183	**	BC550 TO92 LN Npn Transistor
080282	**	13V 1W 5% Zener Diode
080245	**	7V5 1W 5% Zener Diode
080168	**	W02M 1.5A Rectifier Diodes Bridge
080158	**	1N4006 1A 800V Rectifier Diode
080156	**	1N4002 1A 100V Rectifier Diode
080103	**	1N4148 100mA 75V Signal Diode
070106	**	470E 20% Horizontal Linear Trimmer
042725	**	100K 1/4W 1% Metalized Film Resistor
042685	**	47K5 1/4W 1% Metalized Film Resistor
042565	**	4K99 1/4W 1% Metalized Film Resistor
042564	**	4K75 1/4W 1% Metalized Film Resistor
042557	**	4K32 1/4W 1% Metalized Film Resistor
042345	**	75E0 1/4W 1% Metalized Film Resistor
030715	**	1000u 6v3 20% Vert Electrolytic Capacitor
030526	**	2200u 35v 20% Snap-In Electrolytic Capacitor
140929	**	9 Contacts Vert Male Connector
140068	**	3 Contacts Terminal Block
110119	**	6.3x32mm and 5x20mm Fuse Clip
090919	**	MJE15031 TO220 Pnp Transistor
090918	**	MJE15030 TO220 Npn Transistor
090917	**	MJE350 TO126 Pnp Transistor
090916	**	MJE340 TO126 Npn Transistor
090183	**	BC550 TO92 LN Npn Transistor
080820	**	Ptc 80 PTH59F04BF222TS
727567	**	Fan Assembly
110363	***	24Vdc (80x32cm) Fan
210215	**	Adhesive Rubber Foam 10x1.9mm (Specify mt)
177603	**	Amplifier Board Support
768189	*	**Inputs Board (PCB#313041)**
141189	**	Hor Female XLR-Jack Socket (NCJ6FK-H Neutrik)
141186	**	Hor Male XLR Socket (NC3MAH Neutrik)
140929	**	9 Contacts Vert Male Connector
110267	**	1sw 2pos Horizontal Slider Switch
100061	**	TL072 Dual J-Fet Operational Amplifier
090194	**	BC560 TO92 LN Pnp Transistor
090183	**	BC550 TO92 LN Npn Transistor
080901	**	VTL5C4 Analog Optoisolator
080743	**	3mm Wide Diffused Green Led
080742	**	Led 3mm Wide Diffused Red-Grn
080293	**	15V 1W 5% Zener Diode
080168	**	W02M 1.5A Rectifier Diodes Bridge
074570	**	5K 31steps Linear Potentiometer

K3 350W Power Amplifier Assembly

737096		**350W Power Amplifier Assembly (EU)**
737097		**350W Power Amplifier Assembly (US)**
778139	*	Amplifier Cables Assembly
667683	*	Power Amplifier Chassis
659027	*	White Potentiometer Knob
238088	*	Transformer 230Vac 430W (EU) (K3)
238089	*	Transformer 115Vac 430W (US) (K3)
210216	*	Adhesive Rubber Foam 20x5mm (Specify mt)
210215	*	Adhesive Rubber Foam 10x1.9mm (Specify mt)
141204	*	Mains Power Blue Socket (NTPW3MPA Neutrik)
110291	*	Power Switch
110120	*	Fuse Clip (US)
110119	*	Fuse Clip (EU)
110027	*	T10A Fuse 6.3x32mm (US)
110026	*	T1.25A Fuse 6.3x32mm (US)
110013	*	T1.25A Fuse 5x20mm (EU)
080607	*	KBPC25 25A 200V Rectifier Diode Bridge
020491	*	100nF 10% 250Vac Polyester Capacitor
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090923	**	MJL21193 TO264 Pnp Transistor
230530	**	1uH 10% 630mA Rf Coil
140917	**	2 Contacts Vert Male Connector
110316	**	Relay 24V / 1 Switch no 16A 250V
100061	**	TL072 Dual J-Fet Operational Amplifier
100060	**	7815 +15V 1A Voltage Regulator
100049	**	7915 -15V 1A Voltage Regulator
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042564	**	4K75 1/4W 1% Metalized Film Resistor
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030526	**	2200u 35v 20% Snap-In Electrolytic Capacitor
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140068	**	3 Contacts Terminal Block
110119	**	6.3x32mm and 5x20mm Fuse Clip
090919	**	MJE15031 TO220 Pnp Transistor
090918	**	MJE15030 TO220 Npn Transistor
090917	**	MJE350 TO126 Pnp Transistor
090916	**	MJE340 TO126 Npn Transistor
090183	**	BC550 TO92 LN Npn Transistor
080819	**	Ptc 70 PTH59F04BG222TS
727567	**	Fan Assembly
110363	***	24Vdc (80x32cm) Fan
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141186	**	Hor Male XLR Socket (NC3MAH Neutrik)
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080901	**	VTL5C4 Analog Optoisolator
080743	**	3mm Wide Diffused Green Led
080742	**	Led 3mm Wide Diffused Red-Grn
080293	**	15V 1W 5% Zener Diode
080168	**	W02M 1.5A Rectifier Diodes Bridge
074570	**	5K 31Steps Linear Potentiometer
030866	**	4700u 100V -10+50% V Electrolytic Capacitor

Note:

Each spare part is single quantity unless otherwise specified.
Asterisk prefix explanation:
Omitted = First level spare part.
One asterisk = Second level, part of previous listed first level part.
Two asterisk = Third level, part of previous listed second level part.
Three asterisk = ...
Any request for not above mentioned part must encompass specific description including:
1) Model name,
2) Section name,
3) Module code,
4) Reference name,
5) Quantity number.