

**Soundcraft DPS-3 Power Supply**

**USER GUIDE  
and  
TECHNICAL MANUAL**  
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**IMPORTANT**  
Please read this manual carefully before  
connecting your **DPS-3 Power Supply**  
Unit to the mains for the first time.

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This equipment complies  
with the EMC directive  
89/336/EEC  
Modified by  
92/31/EEC  
93/68/EEC  
91/263/EEC  
and LVD 73/23/EEC  
modified by 93/68/EEC

This product is approved to  
safety standards:

IEC 60065: 2001  
EN60065:2002  
UL6500 7th Edition: 2003  
CAN/CSA-E60065-03

And EMC standards  
EN55103-1: 1996 (E2)  
EN55103-2: 1996 (E2)

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Parts of the design of this product may be protected by worldwide patents.

Part No. ZM0317-02

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## SAFETY SYMBOL GUIDE

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For your own safety and to avoid invalidation of the warranty all text marked with these Symbols should be read carefully.



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### CAUTIONS

Must be followed carefully to avoid bodily injury.

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### WARNINGS

Must be observed to avoid damage to your equipment.

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### NOTES

Contains important information and useful tips on the operation of your equipment.

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## IMPORTANT SAFETY INSTRUCTIONS

Read these instructions.

Keep these instructions.

Heed all warnings.

Follow all instructions.

Do not use this apparatus near water.

Clean only with a dry cloth.

Do not block any ventilation openings. Ventilation should not be impeded by covering the ventilation openings with items such as newspapers, table cloths, curtains etc. Install in accordance with the manufacturer's instructions.

Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.

Do not defeat the safety purpose of a polarised or grounding type plug. A polarised plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.

Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles and the point where they exit from the apparatus.

Only use attachments/accessories specified by the manufacturer.



Use only with the cart, stand, tripod, bracket or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.

Unplug this apparatus during lightning storms or when unused for long periods of time.

Refer all servicing to qualified service personnel. It is recommended that all maintenance and service on the product should be carried out by Soundcraft or its authorised agents. Soundcraft cannot accept any liability whatsoever for any loss or damage caused by service, maintenance or repair by unauthorised personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

No naked flame sources, such as lighted candles, should be placed on the apparatus.

**WARNING:** To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture. Do not expose the apparatus to dripping or splashing and do not place objects filled with liquids, such as vases, on the apparatus.

**THIS APPARATUS MUST BE EARTHED.** Under no circumstances should the safety earth be disconnected from the mains lead.


The mains supply disconnect device is the mains plug. It must remain accessible so as to be readily operable when the apparatus is in use.

If any part of the mains cord set is damaged, the complete cord set should be replaced. The following information is for reference only.

The wires in the mains lead are coloured in accordance with the following code:

Earth (Ground):	Green and Yellow	(US - Green/Yellow)
Neutral:	Blue	(US - White)
Live (Hot):	Brown	(US - Black)

As the colours of the wires in the mains lead may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:

The wire which is coloured Green and Yellow must be connected to the terminal in the plug which is marked with the letter E or by the earth symbol. 

The wire which is coloured Blue must be connected to the terminal in the plug which is marked with the letter N

The wire which is coloured Brown must be connected to the terminal in the plug which is marked with the letter L

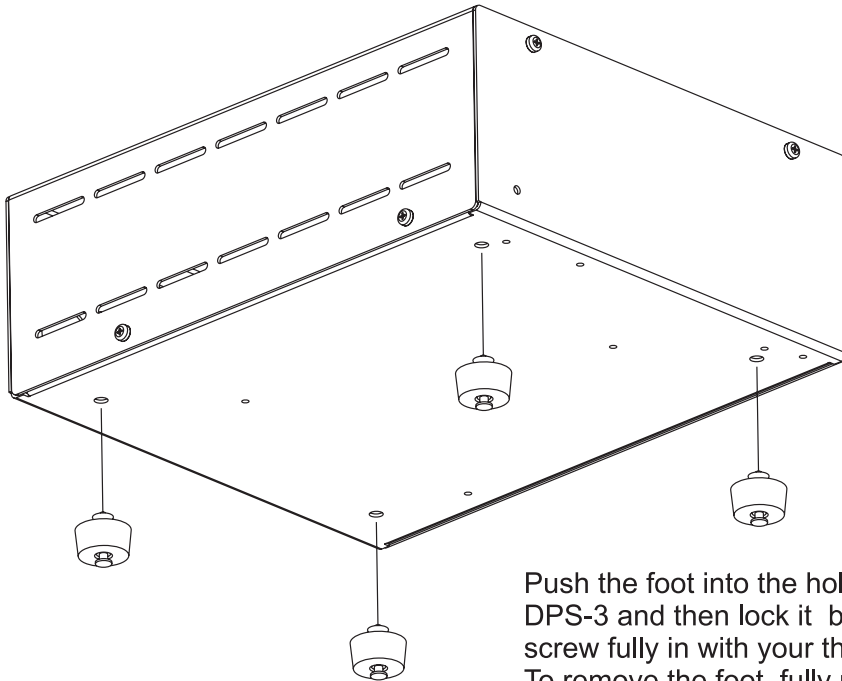
Ensure that these colour codes are followed carefully in the event of the plug being changed

This unit is capable of operating over a range of mains voltages as marked on the rear panel. It is important to ensure that the correct mains fuse is fitted before switching on the unit.

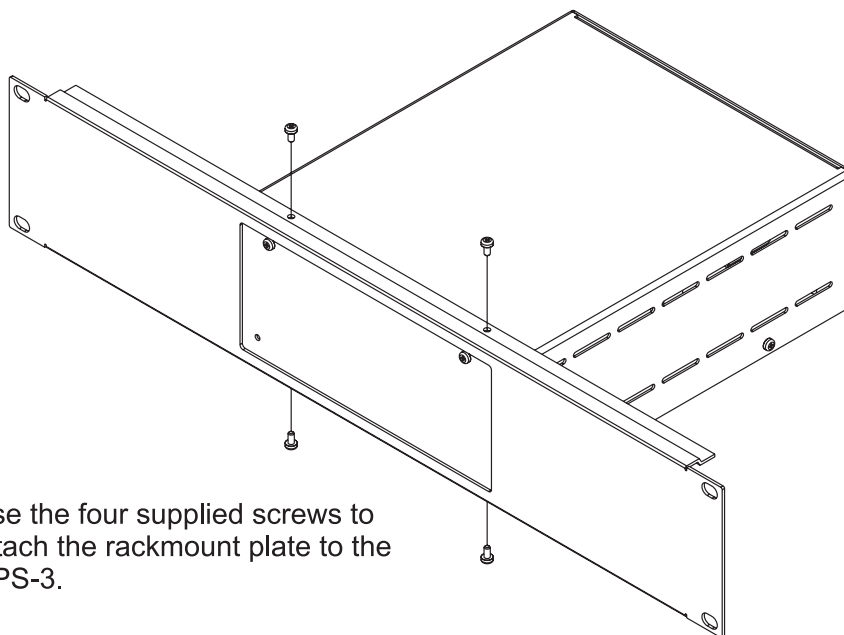
## FITTING THE FEET OR RACKMOUNTING

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You may attach the supplied feet to your DPS-3, **or** the supplied rackmount plate.  
**The rackmount plate cannot be fitted if the feet are attached.**



Push the foot into the hole in the bottom of the DPS-3 and then lock it by pushing the plastic screw fully in with your thumb.  
To remove the foot, fully unscrew the plastic centre and then pull the foot out.



Use the four supplied screws to attach the rackmount plate to the DPS-3.

# CONNECTING UP

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## *Before you start*

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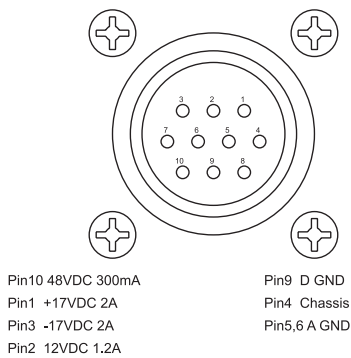
**Ensure the DPS-3 power supply is NOT connected to the Mains and is turned OFF.**

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The Power supply can be positioned anywhere within reach of the console and an available power socket, but is best rack-mounted in a position where airflow through the vents is not obstructed and where the power switch or cables cannot be accidentally knocked. Connect the multi-way power cable between the DPS-3 External Power Supply and the console's connector. Screw the connector locking ring clockwise on both units to secure the cable. The locking ring should be firm, but not tight. Connect an IEC type mains cable with the plug fused at 3 AMPS, to the mains input socket on the DPS-3. Connect the other end to the nearest plug socket and switch on the power to the DPS-3.

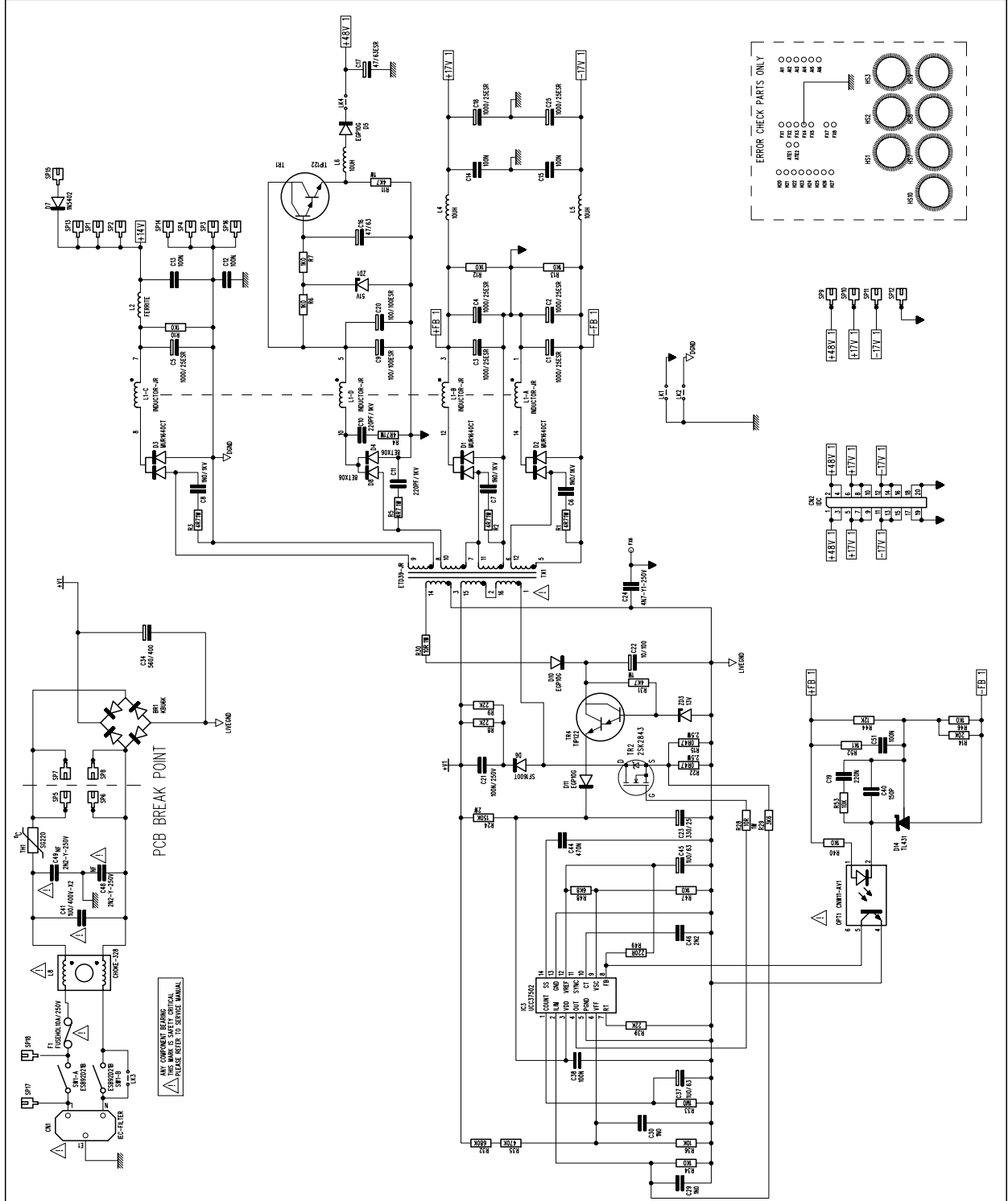
## PIN-OUTS OF DC OUTPUT CONNECTOR

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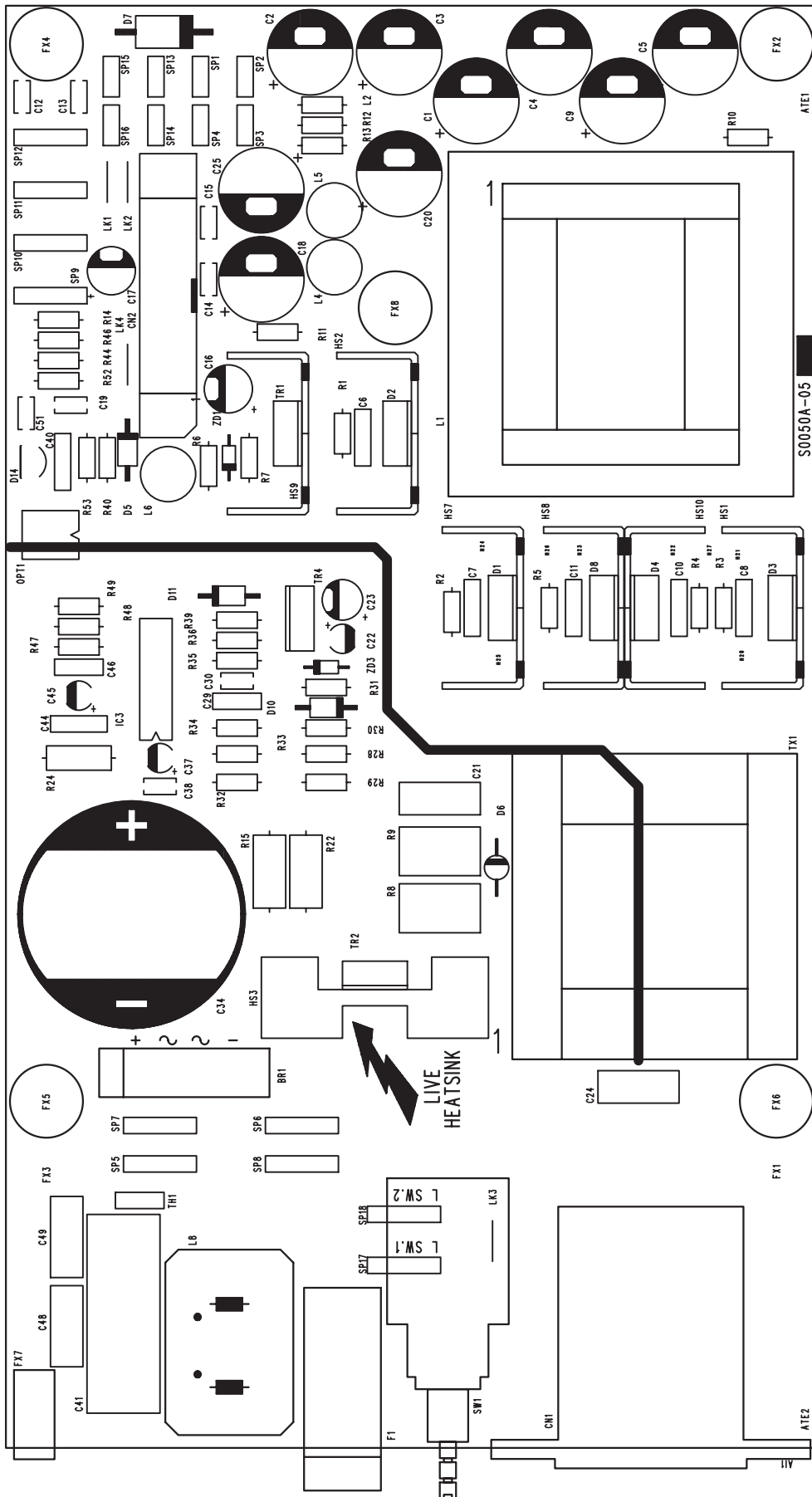


# Circuit Diagram



DRAWING NUMBER	ISSUE
E0050A-05A	
 A DIVISION OF HERMAN INTERNATIONAL INDUSTRIES LIMITED SOUNDSCAPES HOUSE POTTERS BAR HERTFORDSHIRE EN10 2JN TEL: +44 (0)1707 665000 FAX: +44 (0)1707 660462	
TITLE:	GB4 / GB8 / DPS3 PSU
SHEET 1 OF 1	CIRCUIT DIAGRAM
FILENAME:	E0050A-05A.SCH
DRAWN:	CN
DATE:	29/01/04
CHECKED:	
MATERIAL:	
FINISH:	
ISSUE COMMENTS:	<ol style="list-style-type: none"> <li>1. PROTOTYPE RELEASE</li> <li>2. PRE PRODUCTION RELEASE 20/04/04</li> <li>3. PRODUCTION RELEASE SEE PMR 28/06/04</li> <li>3A. E00H204 27/07/04</li> <li>4. E00H264 07/09/04</li> <li>5. E00H479 20/06/05</li> </ol>
<small>           CONFIRMATE OWN THE COPYRIGHT OF THIS DRAWING            WHICH IS NOT TO BE COPIED, REPRODUCED OR DISCLOSED            IN PART OR WHOLE TO A THIRD PARTY WITHOUT PRIOR WRITTEN PERMISSION            ©SOUNDSCRAFT, A DIVISION OF HERMAN INTERNATIONAL INDUSTRIES LIMITED         </small>	

# PCB Layout



# PARTS LIST

## GB4 PSU ASSY

Ident	Description	Part Number
—	GB4 PCB PSU BOARD	S0050A-04
—	HEATSINK THERMALLOY 7121D XV05-	PN10004
—	POWER STN MIXER PSU HEATSINK	PN1240
—	DRIVER MOUNTING CLIP	ZC0231
—	(Safety Critical Part)!	
	FUSE 5X20MM T 2A 250V	ZD8002
BR1	BDG RECT KBU6K SIL 6A 800V	BC0222
C1	CAP ELEC VERT 1000UF 25V ESR 1	CE0512
C2	CAP ELEC VERT 1000UF 25V ESR 1	CE0512
C3	CAP ELEC VERT 1000UF 25V ESR 1	CE0512
C4	CAP ELEC VERT 1000UF 25V ESR 1	CE0512
C5	CAP ELEC VERT 1000UF 25V ESR 1	CE0512
C6	CAP CER 1NF 1KV 5MM PITCH	CA0055
C7	CAP CER 1NF 1KV 5MM PITCH	CA0055
C8	CAP CER 1NF 1KV 5MM PITCH	CA0055
C9	CAP ELEC VERT 100UF 100V	CE10046
C10	CAP CER 220PF 1KV DISC CA-CP	CA10018
C11	CAP CER 220PF 1KV DISC CA-CP	CA10018
C12	CAP CER ML 0.1UF 50V 5MM	CA0026
C13	CAP CER ML 0.1UF 50V 5MM	CA0026
C14	CAP CER ML 0.1UF 50V 5MM	CA0026
C15	CAP CER ML 0.1UF 50V 5MM	CA0026
C16	CAP ELEC VERT 47UF 63V SKP 0.2	CE0402
C17	CAP ELEC VERT 47UF 63V WGP ESR	CE0466
C19	MICRO-BOX 5MM 5% 100V 220N	CC0251
C20	CAP ELEC VERT 100UF 100V	CE10046
C21	CAP 100N 250V POLY DIP 10MM	CC10026
C22	CAP ELEC 10UF 100V VERT 105DEG	CE0535
C23	CAP ELEC 330UF 25V VERT 105DEG	CE0536
C24	(Safety Critical Part)!	
	CAP CER 4N7 250V Y1 RATED	CC10088
C29	MICRO-BOX 5MM 5% 63V 1N	CC0238
C30	CAP CER ML 1000PF 100V 5% 5MM	CA0015
C34	CAP ELEC RAD 560UF 400V 35X35	CE10049
C37	CAP ELEC VERT 1UF 63V SSP 4D 7	CE0485
C38	CAP CER ML 0.1UF 50V 5MM	CA0026
C40	CAP CER 150PF 100V TPD 0.2"	CA0045R
C41	(Safety Critical Part)!	
	CAP 1UF 275VAC RFI CLASS X2	CX10000
C44	MICRO-BOX 5MM 5% 470NF 63/100V	CC0267
C45	CAP ELEC VERT 1UF 63V SSP 4D 7	CE0485
C46	MICRO-BOX 5MM 5% 63V 2N2	CC0240
C51	CAP CER ML 0.1UF 50V 5MM	CA0026
CN1	(Safety Critical Part)!	
	IEC FILTER 3A PCB MTG.	FJ8046
CN2	20WY G80 VERT ML HDR LATCH	FA0085
D1	RECTIFIER MUR1640CT TO-220	BC10003
D2	RECTIFIER MUR1640CT TO-220	BC10003
D3	RECTIFIER MUR1640CT TO-220	BC10003
D4	DIODE RECTIFIER 8ETX06 600V 8A	BC0226
D5	DIODE FAST TYPE EGP10G 400V 1A	BA10014
D6	DIODE SF1600 1A FAST SOD-57	BA10008
D7	DIODE 1N5402 200V 3A PRFMD .6"	BA0009
D8	DIODE RECTIFIER 8ETX06 600V 8A	BC0226
D10	DIODE FAST TYPE EGP10G 400V 1A	BA10014

## R0050A-04-AF

D11	DIODE FAST TYPE EGP10G 400V 1A	BA10014
D14	TL431 SHUNT REGULATOR TO92	BE0503
F1	(Safety Critical Part)!	
	FUSE HOLDER 6.3A PCB MTG	ZD8023
IC3	VOLTAGE MODE PWM DIP-14	BE10032
L1	INDUCTOR-OUTPUT -GB4/RENO	P0009-01
L2	FERRITE BEAD AX 5X3.5MM TAPED	HC0021
L4	INDUCTOR 10UH TOKO A823LY-100K	HC0028
L5	INDUCTOR 10UH TOKO A823LY-100K	HC0028
L6	INDUCTOR 10UH TOKO A823LY-100K	HC0028
L8	DIGI 328 LINE FILTER CHOKE	HC0037
OPT1	(Safety Critical Part)!	
	OPTO TRANSISTR H11AV1AVM	BD0396
R1	MF 1W RES 5% 4R7 PRO1	AE0047
R2	MF 1W RES 5% 4R7 PRO1	AE0047
R3	MF 1W RES 5% 4R7 PRO1	AE0047
R4	MF 1W RES 5% 4R7 PRO1	AE0047
R5	MF 1W RES 5% 4R7 PRO1	AE0047
R6	AP 0.25W RES 1% 1K BL	AP1349
R7	AP 0.25W RES 1% 1K BL	AP1349
R8	RES 22K 5% 5W WW TYP.SQM5	AG10015
R9	RES 22K 5% 5W WW TYP.SQM5	AG10015
R10	AP 0.25W RES 1% 1K BL	AP1349
R11	RES 4K7 5% 1W MF PRO1	AE10021
R12	AP 0.25W RES 1% 1K BL	AP1349
R13	AP 0.25W RES 1% 1K BL	AP1349
R14	MF 0.25W RES 1% 20K BL	AP1380
R15	RES 0R47 5% 2W MF PF02	AE10036
R22	RES 0R47 5% 2W MF PF02	AE10036
R24	MF 2W RES 5% 150K PRO2	AE2154
R28	MF 1W RES 5% 10R PRO1	AE0100
R29	MF 0.25W RES 1% 3K6 BL	AP1362
R30	MF 1W RES 5% 10R PRO1	AE0100
R31	RES 4K7 5% 1W MF PRO1	AE10021
R32	MF 0.25W RES 1% 680K BL	AP1417
R33	MF 0.25W RES 1% 1M BL	AP1421
R34	AP 0.25W RES 1% 1K BL	AP1349
R35	MF 0.25W RES 1% 470K BL	AP1413
R36	MF 0.25W RES 1% 10K BL	AP1373
R39	MF 0.25W RES 1% 22K BL	AP1381
R40	AP 0.25W RES 1% 1K BL	AP1349
R44	MF 0.25W RES 1% 12K BL	AP1375
R46	AP 0.25W RES 1% 1K BL	AP1349
R47	AP 0.25W RES 1% 1K BL	AP1349
R48	MF 0.25W RES 1% 6K8 BL	AP1369
R49	MF 0.25W RES 1% 220R BL	AP1333
R52	MF 0.25W RES 1% 1K1 BL	AP1350
R53	MF 0.25W RES 1% 10K BL	AP1373
SP1	SPADE TAB VERT PC 0.125C	FF10022
SP2	SPADE TAB VERT PC 0.125C	FF10022
SP3	SPADE TAB VERT PC 0.125C	FF10022
SP4	SPADE TAB VERT PC 0.125C	FF10022
SP5	1/4" PC MNTNG BLADE VERT	FF0676
SP6	1/4" PC MNTNG BLADE VERT	FF0676
SP7	1/4" PC MNTNG BLADE VERT	FF0676
SP8	1/4" PC MNTNG BLADE VERT	FF0676
SP9	1/4" PC MNTNG BLADE VERT	FF0676
SP10	1/4" PC MNTNG BLADE VERT	FF0676
SP11	1/4" PC MNTNG BLADE VERT	FF0676
SP12	1/4" PC MNTNG BLADE VERT	FF0676

SP13	SPADE TAB VERT PC 0.125C	FF10022
SP14	SPADE TAB VERT PC 0.125C	FF10022
SP15	SPADE TAB VERT PC 0.125C	FF10022
SP16	SPADE TAB VERT PC 0.125C	FF10022
SW1	(Safety Critical Part)!	
	PANASONIC DPST HOR MAINS SWT	DJ8002
TX1	TRANSFORMER SMPS.GB4/RENO	P0008-01
TH1	(Safety Critical Part)!	
	THERMISTER 3A INRUSH LIMITER	AZ2279
TR1	TRANS TIP122 TO220 XE01-	BD10026
TR2	MOSFET PWR.STP13NK60Z/FP	BD10051
TR4	TRANS TIP122 TO220 XE01-	BD10026
ZD1	ZENER DIODE 1.3W 51V	BB0131
ZD3	ZENER DIODE 250MW 13V	BB10025

### **DPS3 LED PCB ASSY.AF R0105A-01-AF**

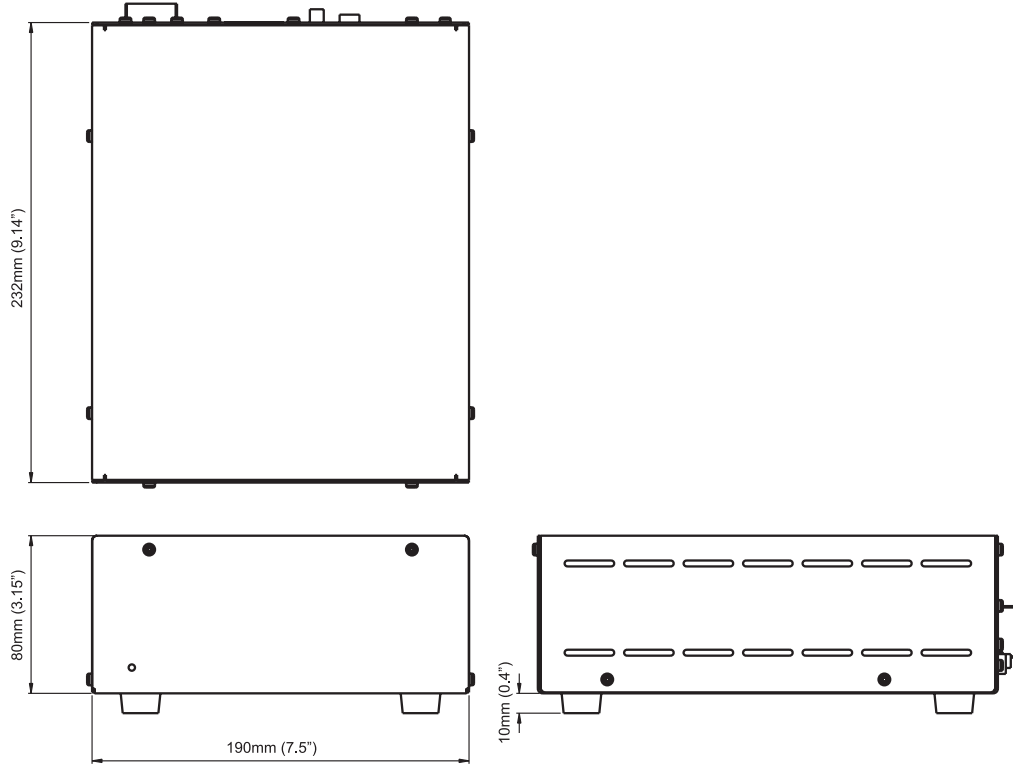
Ident	Description	Part Number
LED1	LED 3MM ULTRA RED ROUND	JA10025
R1	SM0805 RES 2K4 1% 0.1W T200	AS0242R-0805F

### **DPS3 SRC PCB ASSY AF R0099A-02-AF**

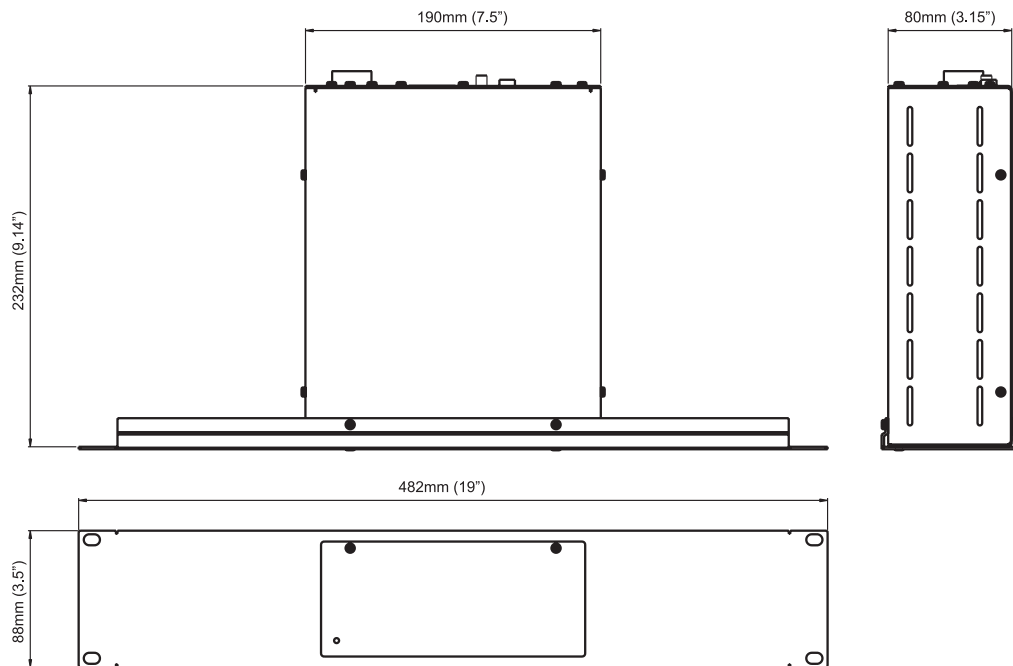
Ident	Description	Part Number
-	PCB DPS3 SRC BOARD	S0099-02
C1	CAP CER 100NF 10% 50V X7R	CS7104R-0805K
C2	CAP CER 100NF 10% 50V X7R	CS7104R-0805K
C3	CAP CER 100NF 10% 50V X7R	CS7104R-0805K
C4	CAP CER 100NF 10% 50V X7R	CS7104R-0805K
C5	CAP CER 100NF 10% 50V X7R	CS7104R-0805K
C6	CAP CER 15NF 10% 100V	CS7153R-0805K1

# DIMENSIONS

## Dimensions With Feet Attached



## Dimensions With Rack-mount Attachment





## WARRANTY

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1 **Soundcraft** is a trading division of Harman International Industries Ltd .

**End User** means the person who first puts the equipment into regular operation.

**Dealer** means the person other than Soundcraft (if any) from whom the End User purchased the Equipment, provided such a person is authorised for this purpose by Soundcraft or its accredited Distributor.

**Equipment** means the equipment supplied with this manual.

2 If within the period of twelve months from the date of delivery of the Equipment to the End User it shall prove defective by reason only of faulty materials and/or workmanship to such an extent that the effectiveness and/or usability thereof is materially affected the Equipment or the defective component should be returned to the Dealer or to Soundcraft and subject to the following conditions the Dealer or Soundcraft will repair or replace the defective components. Any components replaced will become the property of Soundcraft.

3 Any Equipment or component returned will be at the risk of the End User whilst in transit (both to and from the Dealer or Soundcraft) and postage must be prepaid.

4 This warranty shall only be valid if:

a) the Equipment has been properly installed in accordance with instructions contained in Soundcraft's manual; and

b) the End User has notified Soundcraft or the Dealer within 14 days of the defect appearing; and

c) no persons other than authorised representatives of Soundcraft or the Dealer have effected any replacement of parts maintenance adjustments or repairs to the Equipment; and

d) the End User has used the Equipment only for such purposes as Soundcraft recommends, with only such operating supplies as meet Soundcraft's specifications and otherwise in all respects in accordance Soundcraft's recommendations.

5 Defects arising as a result of the following are not covered by this Warranty: faulty or negligent handling, chemical or electro-chemical or electrical influences, accidental damage, Acts of God, neglect, deficiency in electrical power, air-conditioning or humidity control.

6 The benefit of this Warranty may not be assigned by the End User.

7 End Users who are consumers should note their rights under this Warranty are in addition to and do not affect any other rights to which they may be entitled against the seller of the Equipment.



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