

DC Coupled B1 Shunt PSU

DCB1 Blue Edition

Main Parts			DCB1 BLUE			
Part	Value	Info	Q	Tips	Farnell	Mouser
Resistors	220K	1/4W - Audio Parts	2	Quality Parts : Takman, Riken, AB, Kiwame - Carbon, Metal, Tantalum type. Takman Approved by Beta testers	www.partsconnexion.com	
	220R	1/4W - Audio Parts	4		www.diyhifisupply.com	
	1M	1/4W - Audio Parts	2	www.hificollective.co.uk		
	470R	1/2W - Carbon Film - 5%	4	Carbon Type preferred	1265115	293-470-RC
	47R	1/4W - Metal Film - 1%	2	Generic Metal Film	Your Choice	
	10R	1/4W - Metal Film - 1%	2	Generic Metal Film		
	100R	1/4W - Metal Film - 1%	2	Generic Metal Film		
	47K	1/4W - Metal Film - 1%	1	Generic Metal Film		
	10K	1/4W - Metal Film - 1%	1	Generic Metal Film		
	2K2	1/2W - Metal Film - 1%	1	Generic Metal Film		
	68R *	1/2W - Metal Film - 1%	4	Generic Metal Film		
	600R	1/2W - Metal Film - 1%	2	Required only with 5v relays Use jumpers with 12v relays		
Caps (1)	4700uF	Electrolytic - Min 35V - Snap In	4	Nichicon KG	Your Choice - Spacing 10mm	
	100uF	Electrolytic - Min 35V - 5mm	3	Pana FC - Silmic II - Nichicon PM	Your Choice - Spacing 5mm	
	0.22uF	Film Cap : 0.1 to 10uF Electrolytics : 10 to 100uF	2	Wima MKP10/100VDC Alternative to Wima MKP10	Spacing 15mm for MKP10	
Jfet	2SK170-BL (2)	Matched - N Jfet - TO92	4	Resulting up to 5mV DC offset	DIYAudio Forum	
	2SK170-BL	Unmatched - N Jfet - TO92	6	Unmatched - BL Grade	NA	757-2SK170BLF
Transistors	BC-560 B or C	PNP - TO92	1		1467886	512-BC560CBU
	BC-556/7/8/9	Alternatives to BC-560B/C	1			
	BC-550 B or C	NPN - TO92	2		1467880	512-BC550CBU
MOSFET	BC-517 G	NPN - TO92	1		1705773	863-BC517G
	IRFP240	N Channel - TO-247	2		1463256	844-IRFP240PBF
	IRFP140	Alternative to IRFP240			9103040	844-IRFP140PBF
	IRFP9240	P Channel - TO-247	2		8649456	844-IRFP9240PBF
	IRFP9140	Alternative to IRFP9240			9103589	844-IRFP9140PBF
Led	Led	3mm - 1.7 to 1.8V - 2mcd	16	8 Matched units/rail - Vf : 1.8v at 20mA	1003205	593-VAOL-3HCE4
Rectifier Diode	MUR120	UltraFast 200V - 1A	4	DO-41 - Use MUR120 or MUR840/60	9557490	863-MUR120G
For Hot Rod	MUR840/60	UltraFast 400/600V - 8A	4	TO-220 - Use MUR840/60 or MUR120	364472	844-11DQ10

* For Hot Rod current use 10R/5W x 2 units instead of 4 x 68R/0.5W

I/O Connectors to PCB

Part	Value	Info	Q	Tips	Farnell	Mouser
Male Conn.	M 3 poles I/O	3 poles Male Pin header	2	For PCB - 2.54mm spacing	1462950	538-22-23-2031
Female Conn.	F 3 poles I/O	3 poles Female Connector	2	For I/O connectors - 2.54mm spacing	1462780	538-10-11-2033
Crimps	Wiring	For Female Connector	6	For Female Connector Wiring (x3)	1462641	538-08-50-0114

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Relay			DCB1 BLUE			
Part	Value	Info	Q	Tips	Farnell	Mouser
Relay Diode	1N4001	Standard 50v - 1A	1	D0-41	1651089	512-1N4001_Q
12v Regulator	L7812ACV	12v Fixed Tension Regulator	1	TO-220-3 pins - STMicroelectronics	1087091	511-L7812ACV
TO-220 Sink	Heatsink	Heatsink for 7812	1	Clip	4621220	532-6043PB
12v Relay (6)	G6H-2-100-DC12 TQ2-12V	12v DC - 2 poles Relay Alternative to G6H-2-100-DC12	1 1	Non latching - Omron and Nais OK Non latching - Panasonic	9949208 1200949	653-G6H-2-100DC12 769-TQ2-12V
05v Relay	G6H-2-100-DC5	05v DC - 2 poles Relay	1	Non latching - Omron and Nais OK	9949194	653-G6H-2-100DC5
Warning : Only one 12v or 5v relays !						

Others Hardware

Part	Value	Info	Q	Tips	Farnell	Mouser
Led	Status Led	On / Off Status	1	Adjust RLed ON resistor value for brightness to your liking		Your Choice
Transformer	50Va - 2x15V	2x15v - 50Va	1	Rcore / EI / Toroidal		Your Choice
TO-247 Sink (3)	Heatsink	Heatsink for IRFP240/9240	4	Clip		567-287-1ABE
Fuse 115V	Fuse	750mA T (Slow)	2	Ok for 50VA Transformer - 115V		Your Choice
Fuse 230V	Fuse	500mA T (Slow)	2	Ok for 50VA Transformer - 230V		Your Choice
Terminal Block	3 poles	Standard 5.08mm	1	90° for PCB - Through hole	3041451	651-1729131
Volume Pot (4)	10K-20k (5)	Basic Stereo Log Pot	1	PCB Footprint is for ALPS RK27		Your Choice

(1) CAPS : 35V 4700uF caps are for the recommended transformer or up to 2X15VAC. Higher voltage caps won't hurt.

Onboard spacing are : 7mm for 4700uF - 5mm for 100uF. If you exceed those values, caps won't fit !

(2) JFET : 0-3 mV will be great - Up to 5 mV will be very good.

(3) Sinks for TO-247 are optional but suggested for lifetime of the parts - Recommended for Hot Rod

(4) LightSpeed attenuator : <http://www.diyaudio.com/forums/showthread.php?s=&threadid=80194&highlight=lightspeed>

Some DIYers have experimented very good results using LightSpeed rather than usual pot.

(5) 10 to 20K is recommended - Refer to B1 thread for more detailed informations about Pot.

(6) 12v relay preferred for low power consumption.

Blue Edition Board Size : 181.8mm x 71.3mm