

DC Coupled B1 Shunt PSU

DCB1 Blue Edition

DCB1 BLUE

Main Parts

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 Carbon Type preferred Generic Metal Film Generic Metal Film Generic Metal Film Generic Metal Film Generic Metal Film Generic Metal Film Generic Metal Film Required only with 5v relays Use jumpers with 12v relays	www.partsconnexion.com www.diyhifisupply.com www.hificollective.co.uk	
	220R	1/4W - Audio Parts	4			
	1M	1/4W - Audio Parts	2			
	470R	1/2W - Carbon Film - 5%	4			
	47R	1/4W - Metal Film - 1%	2			
	1R	1/4W - Metal Film - 1%	2			
	100R	1/4W - Metal Film - 1%	2			
	47K	1/4W - Metal Film - 1%	1			
	10K	1/4W - Metal Film - 1%	1			
	2K2	1/2W - Metal Film - 1%	1			
	68R *	1/2W - Metal Film - 1%	4			
600R	1/2W - Metal Film - 1%	2				
Caps (1)	4700uF	Electrolytic - Min 35V - Snap In	4	Nichicon KG Pana FC - Silmic II - Nichicon PM Wima MKP10/100VDC Alternative to Wima MKP10	Your Choice - Spacing 10mm	
	100uF	Electrolytic - Min 35V - 5mm	3		Your Choice - Spacing 5mm	
	0.22uF	Film Cap : 0.1 to 10uF Electrolytics : 10 to 100uF	2		Spacing 15mm for MKP10	
Jfet	2SK170-BL (2)	Matched - N Jfet - TO92	4	Resulting up to 5mV DC offset Unmatched - BL Grade	DIYAudio Forum	
	2SK170-BL	Unmatched - N Jfet - TO92	6		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	2	9103040	844-IRFP140PBF	
	IRFP9240	P Channel - TO-247	2	8649456	844-IRFP9240PBF	
Led	IRFP9140	Alternative to IRFP9240	2	9103589	844-IRFP9140PBF	
	Led	3mm - 1.7 to 1.8V - 2mcd	16	8 Matched units/rail - Vf : 1.8v at 20mA	1003205	593-VAOL-3HCE4
Rectifier Diode For Hot Rod	MUR120	UltraFast 200V - 1A	4	DO-41 - Use MUR120 or MUR840/60	9557490	863-MUR120G
	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			Q	Tips	Farnell	Mouser
Part	Value	Info	Q	Tips	Farnell	Mouser
Relay Diode	1N4001	Standard 50v - 1A	1	D0-41	1651089	512-1N4001_Q
Decoupling	100nF/63v	100nF/63v - 5mm footprint	1	Metal Film Cap - Near L7812ACV	1189289	871-B32529C104K189
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 liki		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 4700µF - 5mm for 100µF. 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 experimeted 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