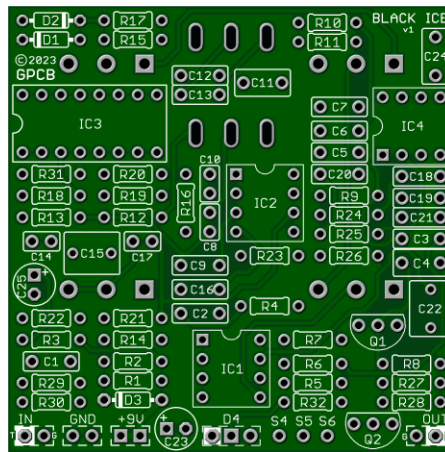


# Black Ice

*Introducing Black Ice, the ultimate bass distortion pedal that will transform your sound and take your bass playing to the next level! Fine-tune your tone with precision using the intuitive controls: Blend, Volume, Drive, Tone, with switches for Grunt, and Attack. Create your signature sound effortlessly. Based on the Darkglass Microtubes B3K this PCB circuit incorporates the Tone Control from the vintage Microtubes circuit as well as the Attack and Grunt controls of the B3K.*



Board Dimensions (W x H) 2.32" x 2.32"

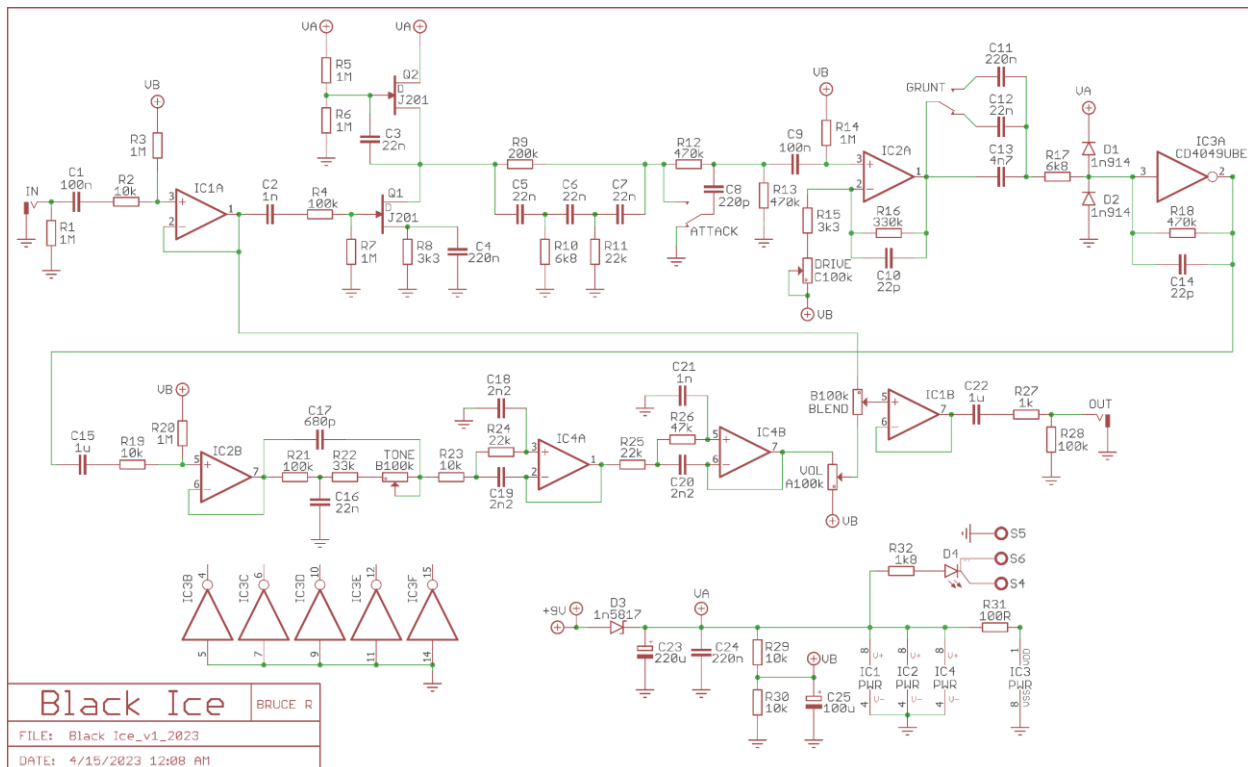
Part	Value
R1	1M
R2	10k
R3	1M
R4	100k
R5	1M
R6	1M
R7	1M
R8	3k3
R9	200k
R10	6k8
R11	22k
R12	470k
R13	470k
R14	1M
R15	3k3

Part	Value
R16	330k
R17	6k8
R18	470k
R19	10k
R20	1M
R21	100k
R22	33k
R23	10k
R24	22k
R25	22k
R26	47k
R27	1k
R28	100k
R29	10k
R30	10k

Part	Value
R31	100R
R32	1k8
C1	100n
C2	1n
C3	22n
C4	220n
C5	22n
C6	22n
C7	22n
C8	220p
C9	100n
C10	22p
C11	220n
C12	22n
C13	4n7

Part	Value
C14	22p
C15	1u
C16	22n
C17	680p
C18	2n2
C19	2n2
C20	2n2
C21	1n
C22	1u
C23	220u
C24	220n
C25	100u
Q1	J201
Q2	J201

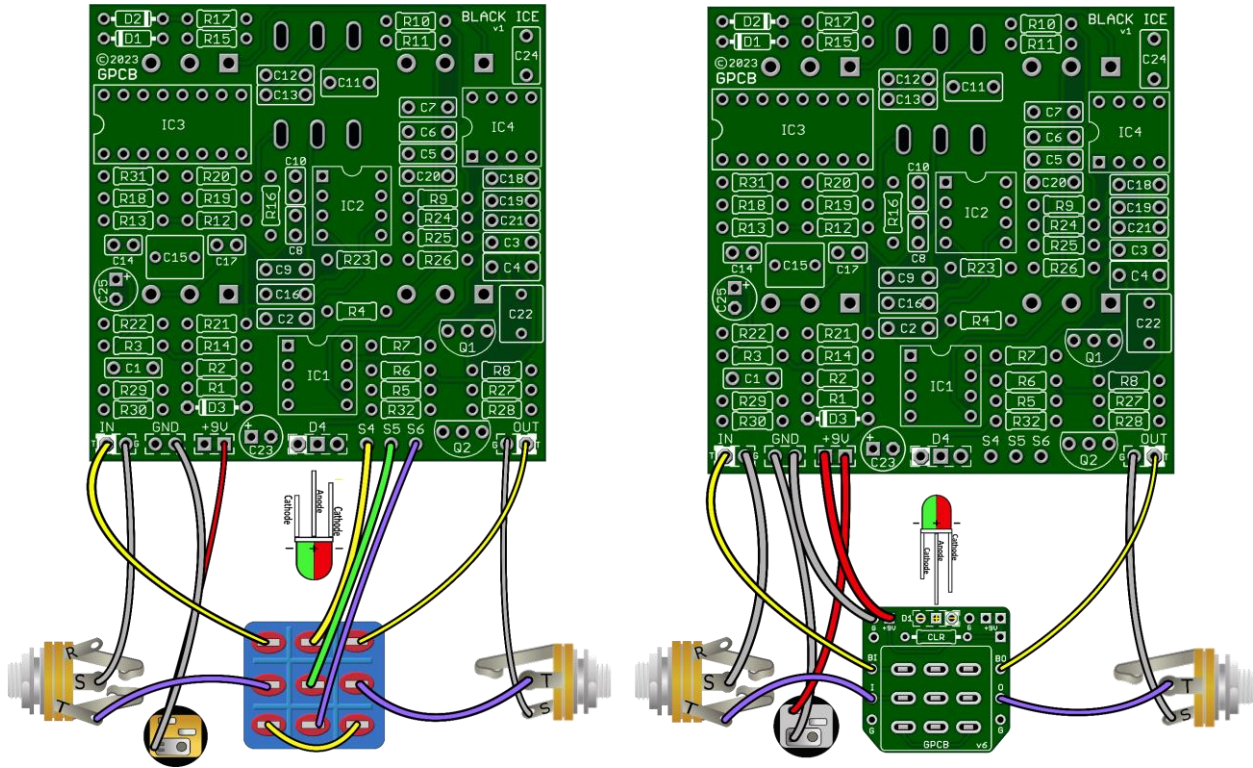
Part	Value
IC1	TL072
IC2	TL072
IC3	4049N
IC4	TL072
ATTACK	SPDT ON-OFF-ON
GRUNT	SPDT ON-OFF-ON
VOL	A100k
DRIVE	C100k
BLEND	B100k
TONE	B100k
D1 - D2	1n4148
D3	1n5817
D4	Status LED



### Controls:

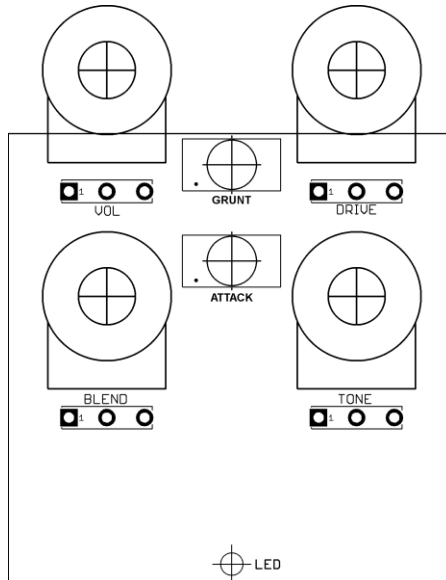
- **Drive** – This allows control of the saturation level of the circuit.
- **Tone** – Counterclockwise is like the vintage Microtubes. Clockwise adds in higher tones.
- **Level** – Volume control for the circuit.
- **Blend** – Adjust your tone between the buffered clean sound and saturated tone.
- **Grunt (toggle)** – selects three different frequencies of Bass saturation. Full, Mid or High.
- **Attack (toggle)** – selects three different modes of Treble saturation Boost, Flat or Cut.

(Next page)



### Wiring Diagram

Be sure your In/Out Jack wiring is correct. A Stereo Jack (for battery use only) has a RING lug which is used to connect to the battery ground. If you do not use a battery there is no need for a Stereo Jack. If using Stereo then only use the Tip and Sleeve lugs. S4, S5 & S6 is only needed when the LED is wired to the Main Board. Note: If wiring the LED to our 3PDT board there is no need to connect S4, S5 & S6 or populate D4 and \*R3 (CLR) on the main board since you are wiring the LED & CLR (current limiting resistor) directly to our wiring board instead.



### Drill Template

Note the location of the Grunt and Attack switches.



# GuitarPCB Tip Sheet

Bi-color Common Anode LED example  
Green = On Status and Red = Off Status

Try any of three different color sets  
Red/Blue, Red/Green or Blue, Green

Short Lead = "On" status color  
Medium Lead = "Off" status color  
Long Lead = Common Anode +

Try our 3PDT Vari-Bright version w/  
on-board Trimmer to adjust brightness

Standard On/Off Status LED  
D1 Circle Pad connects to LED Cathode

- Green = Ground Pads (5)
- Red = +9v Power Pads (4)
- D1 = LED Pads
- CLR = Current Limiting Resistor
- BI = From Main Board IN
- BO = From Main Board OUT
- I = To Jack Tip IN
- O = To Jack Tip OUT

**2.1mm Power Jack Type 1**  
(no battery lug)

GND Wire Lug (short) → TIP  
+9v Wire Lug (long) → SLEEVE

Do not over-tighten (hand tight)

**GuitarPCB for any XYZ Company**  
Primary Circuit Board

**2.1mm Power Jack Type 2**

+9v Wire  
Battery  
GND Wire

**T = Tip**  
**R = Ring**  
**S = Sleeve**

Stereo Jack (T-R-S)      Mono Jack (T-S)

**T = Tip**  
**S = Sleeve**

Multiple +9v and Ground Pads are convenient hookup points for additional circuits within the same enclosure. This also allows for diverse wiring schemes to suit individual needs.

**BACK**

Match Pot Lug number  
to Board Silkscreen

Remove Locking Tab  
from Potentiometer

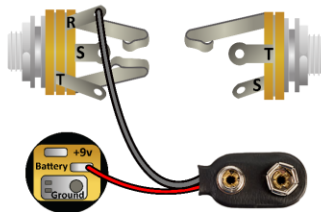
Sockets make troubleshooting easier

Main Board IN/OUT Pads

Extra Ground Pad

Audio Path to 3PDT

When soldering wire to a PCB  
push the protective PVC jacket  
flush with the board and pad.



## Input/Output Jack Wiring

T = Tip | R = Ring | S = Sleeve

A Stereo Jack is only needed if using a Battery. Otherwise use a Mono Jack  
 Battery Strap RED wire is connected to Power Jack  
 Battery Strap Black wire is connected to RING (stereo jack)  
 If wiring an LED to our 3PDT Wiring Board then S4, S5 & S6 are not needed



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