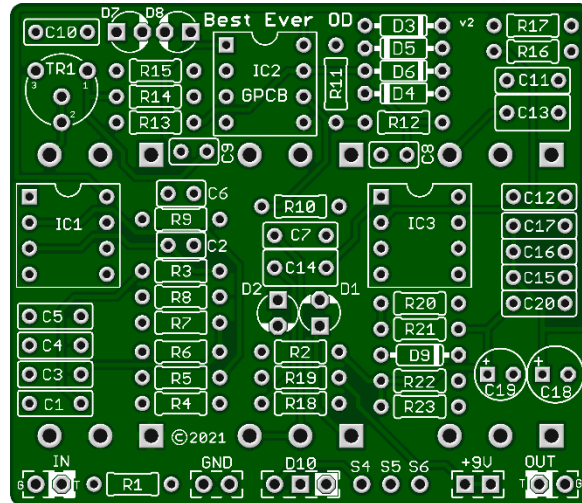# Best Ever - O.D. v2 2021

Based on the Brown Sound tones found in the Friedman BE-OD™ amplifier. In addition to Bass, Treble and Presence controls just like the amp this circuit features a Tight control allowing you to incrementally remove any unwanted loose bottom end. An on-board trimmer feature allows you to adjust the Gain Range to suit your style.

Board Dimensions (W x H) 2.25" x 1.95"

| Part	Value	Part	Value	Part	Value
R1	1M	R20	10R	C16	100n
R2	470k	R21	10k	C17	100n
R3	10k	R22	10k	C18	100u
R4	22k	R23	2k2	C19	22u
R5	39k	C1	22n	C20	100n
R6	4k7	C2	47p		
R7	10k	C3	10n	D1, D2	Red LED-3mm
R8	22k	C4	1n	D3-D6	1N4148
R9	22k	C5	100n	D7, D8	Red LED-3mm
R10	22k	C6	47p	D9	1N5817
R11	22k	C7	47n	D10	Status LED
R12	220k	C8	120p	IC1-IC3	TL072
R13	10k	C9	100p	BASS	C100k
R14	10k	C10	10n	GAIN	B1M
R15	2k2	C11	4n7	PRES	C10k
R16	33k	C12	22n	TIGHT	C100k
R17	33k	C13	220n	TREB	B100k
R18	10k	C14	220n	VOL	A50k
R19	1k8*	C15	100n	TR1	*30k

STATUS LED

*D10 is a Status LED that can be either a Bi-Color Common Anode or a Standard On/Off LED. (See Tip Sheet)

Best Ever OD

BRUCE R

FILE: BestEverOD(2)

DATE: not saved!

IN

+UA
R2 470k
R3 10k
C1 22n
R1 1M
C2 47P

IC1A TL072
R4 22k
+VB
R5 39k
C3 10n
R6 4k7
TIGHT C100k
+VB
R7 10k
C4 1n
R8 22k
C5 100n
R9 22k
D1
D2
GAIN B1M

IC1B TL072
C6 47P
C7 47n

IC2B TL072
R10 22k
+VB
R11 22k
D3
D5
D4
D6
C8 120p
D3-D6: 1N4148
R12 220k
R13 10k

IC2A TL072
+VB
R14 10k
C9 100p
TR1 30k
PRES C10k
R15 2k2
C10 10n
D8
D7
VB
TREB B100k
C11 4n7

IC3A TL072
C12 22n
R16 33k
R17 33k
C13 220n
BASS C100k
C14 220n
R18 10k
VOL A50k
OUT

IC3B TL072
VB
R23 2k2
C19 22u
C20 100n

+UA
R21 10k
R22 10k
C17 100n
C18 100u
C15 100n
C16 100n
IC1 PWR V+ V-
IC2 PWR V+ V-
IC3 PWR V+ V-
R20 10R
D9
D10
R19 1k8*
+9U
S4
S5
S6

STATUS LED

*D10 is a Status LED that can be either a Bi-Color Common Anode or a Standard On/Off LED. (See Tip Sheet)

Wiring Diagram
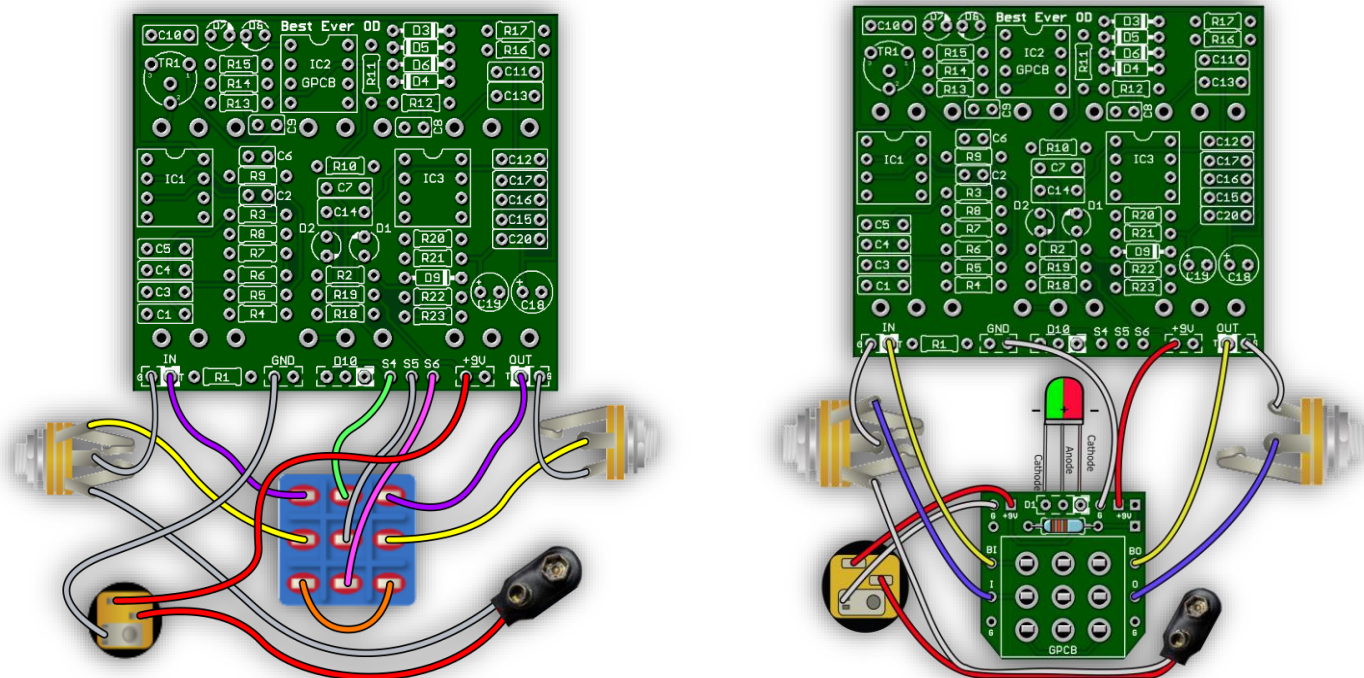
Build Notes: If you are using our 3PDT board, you should omit wires and parts from S4, S5 & S6, D10 and R19 (CLR). The CLR and LED will be populated on the 3PDT board instead.

TR1 can be increased to 50k or even 100k for more available Gain however this can cause noise or even oscillation if you start turning controls to their maximum settings. 30k achieves excellent Brown Sound tones.

Drill Template
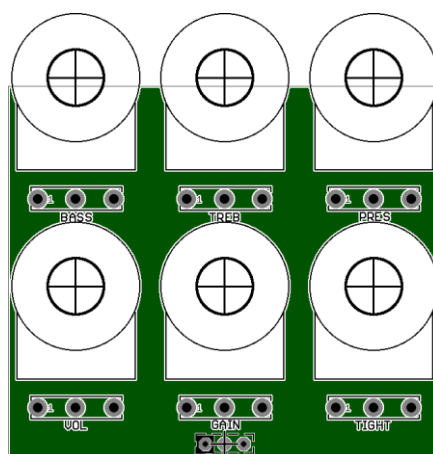
Drill Tips: Measure your components before selecting a drill bit. We recommend drilling the pot holes, mounting the pots in the enclosure, and then soldering the pots to the board. This approach should resolve the issue of the pots not fitting through the holes after soldering. We also recommend you make the holes for the pots a little larger than the threads in case you decide to remove the board and put it back in during the build, to avoid problems. Use this guide at your own risk. Make sure page scaling is turned off when you print this PDF, or the image above may be smaller than expected. Verify everything before drilling.

Populated board for troubleshooting purposes.
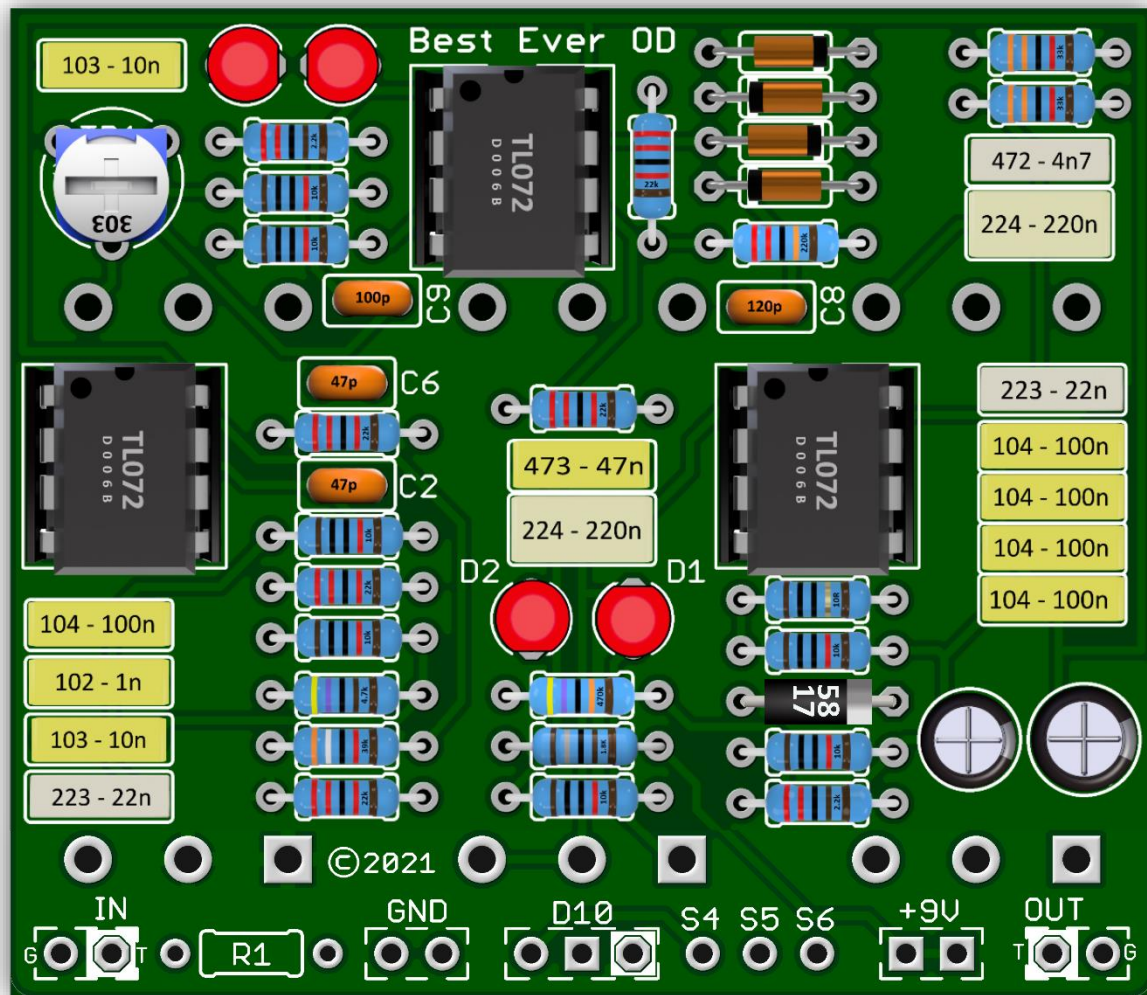
For more build guides and tutorials please visit the **Guides Page** at GuitarPCB.com
For specific build support please visit our dedicated **Support Forum**
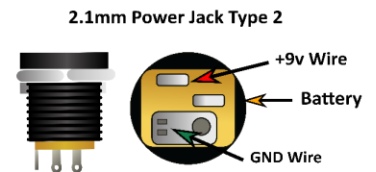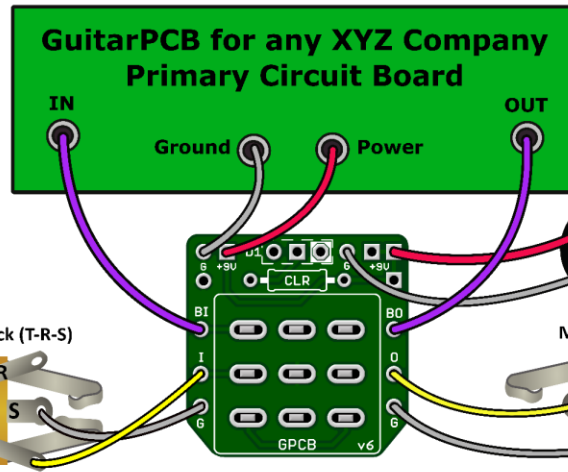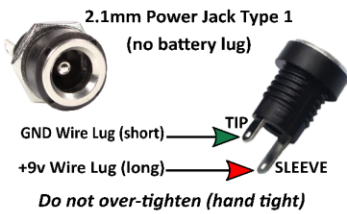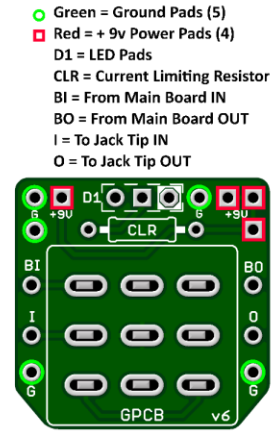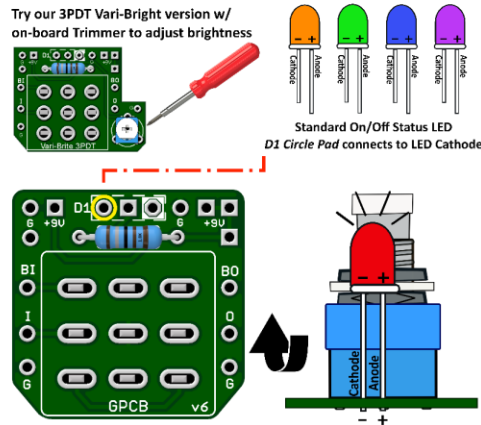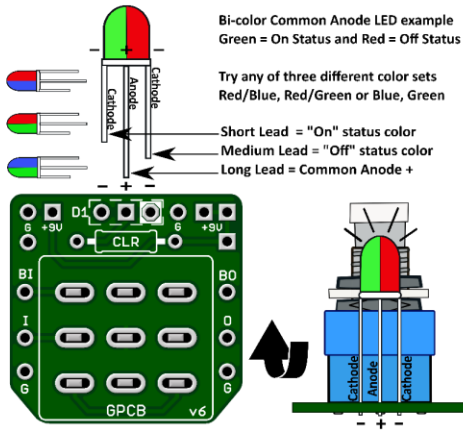**Soldering Tutorial on YouTube**

Need Kits - Check out our authorized worldwide distributors:

- **USA** – Check out **PedalPartsAndKits** for all your GuitarPCB kit needs in the USA.
- **Europe** – **Das Musikding** Order either boards or kits direct from Europe.
- **PedalPartsAustralia** - Order either boards or kits direct from Australia

COLOR	1st Band	2nd Band	3rd Band	Multiplier	Tolerance
BLACK	0	0	0	1Ω	
BROWN	1	1	1	10Ω	±1%
RED	2	2	2	100Ω	±2%
ORANGE	3	3	3	1KΩ	
YELLOW	4	4	4	10KΩ	
GREEN	5	5	5	100KΩ	±0.5%
BLUE	6	6	6	1MΩ	±0.25%
VIOLET	7	7	7	10MΩ	±0.10%
GREY	8	8	8	100MΩ	±0.05%
WHITE	9	9	9	1GΩ	
GOLD				0.1Ω	±5%
SILVER				0.01Ω	±10%

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 +

Cathode
Anode

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

Vari-Brite 3PDT

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

Cathode / Anode

○ 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

GPCB v6

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**

IN   OUT
Ground   Power

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
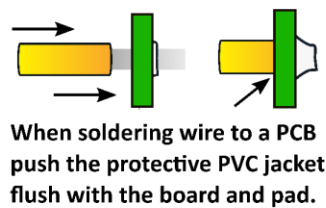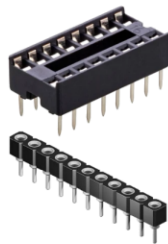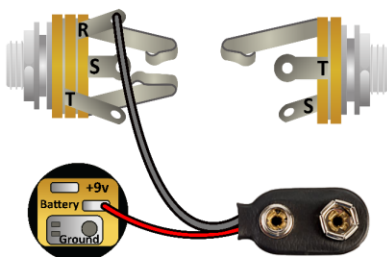S = Sleeve**

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

3 2 1

PRES

Remove Locking Tab
from Potentiometer
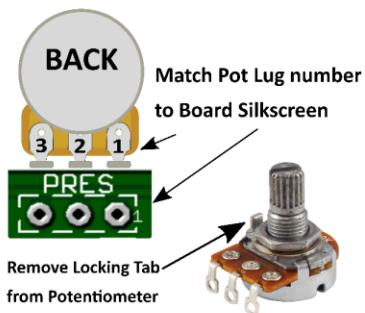
Sockets make troubleshooting easier

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

Main Board IN/OUT Pads

G   T

Extra Ground Pad

Audio Path to 3PDT

R
S
T

T
S

+9v
Battery
Ground

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