

Date: Thu, 01 May 2003 02:42:12
From: "poison_in_a_colorful_bottle"
Subject: EGLFO1A and other questions

:) Ok recieved my PCB's a few days ago and after I started packing them with resistors I had some questions about the parts list on the EGLFO.

What do the Pots P1-P5 correspond to? A,D,S,R, and Range but which pots go with what? The schematic is nearly impossible to read.

Also the other two kits I'm working on are the VCO3D and VCA6B is there anything I should know before starting (schematic changes or mods to make them work better)?

thanks :)
-dustin

Date: Wed, 30 Apr 2003 20:06:13
From: "John L Marshall"
Subject: Re: EGLFO1A and other questions :)

Connection H-L 1 Mohm "Attack" Connection G-K 1 Mohm "Decay" Connection D-E-F 10 kohm "Sustain" Connection J-M 1 Mohm "Release" Connection ground-output-N "Range"

I did not use the range pot on the output, as I have gain controls on inputs to other modules. I also added a range toggle switch so that I could add a second capacitor in parallel with C7.

Take care, John

Date: Sat, 23 Aug 2003 20:12:49
From: "poison_in_a_colorful_bottle"
Subject: EGLFO1a and LED

How would I add an LED to the EGLFO1a?

thx -dustin

Date: Wed, 27 Aug 2003 03:47:23
From: "poison_in_a_colorful_bottle"
Subject: EG again :(

Ok so I finished all the soldering and hooked it all up to my PS when I hit the gate with 15 volts it goes up and then starts coming back down even while held on either switch setting. The attack and release controls do change the rate but that's it...also no LFO :(one way or another. am I missing something? Any suggestions?

thx Edustin

Date: Thu, 28 Aug 2003 00:10:40
From: "poison_in_a_colorful_bottle"
Subject: EG WORKS!!!

WooHoo got it! sort of it oscillates only on LFO and and Gate Mode and I have to hit the input to start it but once it's going...Also the trigger mode is different depending on whether it's in LFO or ADSR mode very strange. Was there supposed to be some way to hook up the DPDT because from the schematic, it looks as though it was supposed to be two SPST?

Who knows it works I'm happy...
Is there anybody out there lately?

-dustin

Date: Wed, 27 Aug 2003 20:54:01
From: Dave Magnuson
Subject: Re: EG WORKS!!!

I'm assuming this is the same EG that is found in the VCF2... if so, you can use (2) SPDT or a DPDT.

One switch is gate or trigger... and the EG responds differently to each. In trig mode it will rise/fall through an entire A/D cycle no matter how long the button is held. In gate mode it sustains as long as the key is held, and you get all 4 parts of the cycle (ADSR).

LFO mode only works when it's set to trig, so therefore only responds to A and D controls.

As for the LFO mode being flaky, I built (3) VCF2, and the LFO only works on 2 of them... never bothered to troubleshoot it, however (I have enough LFOs, and I'm lazy and too busy!!)

Dave Magnuson

Date: Thu, 28 Aug 2003 05:01:00
From: "poison_in_a_colorful_bottle"
Subject: Re: EG WORKS!!!

Hey thanks for the reply Dave...I guess that's the way it's supposed to work. It's really neat getting different LFO waveforms depending on whether the Attack is set to fast or the Decay is set to fast.

Two more questions though,

1. How does it go into LFO mode(?), is the Env. basically retriggered at the end of the decay stage?
2. And how would you go about adding an LED would you just connect one end of the LED to output and the other to ground or do I need to build some kind of opamp circuit?

thanks again, -dustin

fadeddata

Posted 11/29/2003

Just remounted my EGLF01a to the panel and changed the bypass caps to ceramic and now it does nothing. All that happens is the TL072(U4) gets really hot. It's probably burned out now but do you guys have any ideas as to why U4 would get so hot? I also change the way I wired the Pots.

Originally I had Attack -->H,L

Decay G,K

Sustain D,E,F

Release J,M

The only thing I changed was the release to I,M. Also does anybody have a good way to test the TL072 to see if it still works.

Thanks,
dustin

tomg

Posted 11/30/2003

I don't know of anything in there that would make the tlo72 draw too much current under normal conditions. Sometimes when you move things around something gets shorted and starts drawing current. Look for solder blobs. Use a meter and trace the pins from U4 out. Only pins 1&2 should be connected together.

TL072s are pretty sturdy but I have shorted out my fair share. It is possible it's gone. You should be able to just plug in another.... (You did use sockets? Yes?) to find out. They are sturdy enough to take it for a few seconds just be ready to pull the plug if it starts to warm up. If it does start to warm up and it's a known good chip you have to ring out (test) those connections, something else is shorted. Do not let it get too hot. The new one will short out too then you'll have two dead chips.

tomg

Posted 11/30/2003

Oh... The most simple test for an opamp is to wire it up as a voltage follower. That would be to...

- o Wire the output to the inverting (-) input.

- o Connect a 100K resistor from the non-inverting (+) input to gnd.

Voltage (+ or -) on the non-inverting (+) input should appear on the output up to +/- 1V from rail.

- o Supply = +/- 12V

- o 6V in = 6V out

- o -6V in = -6V out.

If it passes these two simple tests it's ok. You can get +/- 6V from a voltage divider (the center of a pair of 10K resistors from one rail or the other to ground). Or use a pair of 9V batteries for power (+/- 9v) and the test voltages will be +/- 4.5V (or 1/2 the supply).

Tom

fadeddata
Posted 11/30/2003

Tested the TL072 and it still works as voltage follower so that's good but it still get's hot. Before I posted the first time I left it running for a good 5 minutes before pulling the power. It's not hot enough to burn but uncomfortable to the touch. Could it have anything to do with how I change the POT wiring? It's funny it worked when I had it wired wrong and now it doesn't do anything.

When I rewired I pulled all the chips (yes I used sockets :) could I have possibly overheated a diode when I was resoldering the pots and junk? I don't know how heat sensitive diodes are. And what should I look for on my meter on the TL072? How about on my scope I can use that if it will help...

Thanks for the help Tom,

dustin

ele4music
Posted 12/19/2003

Swap out the CMOS chip. It may be flaky.

Tom

fadeddata
Posted 01/30/2004

Hello Again! :)

Ok so I tested all the chips and came to the conclusion that the 4066 was bad. I didn't have a good way of testing but I figured if I put a signal across the In/Out and triggered the control it would turn it off and on. It didn't so I figured the chip was bad. So now I went out and bought a whole slew of 4066's. Swapped it out and the damn TL072 is still hot to the touch and no EG. Anyhow I've got some new questions. When triggering the Gate I'm using the 15 volts right off the supply. Is this too much? could I have fried something there? I'm half tempted to pull the whole thing apart and start over but I would definitely overheat something then. How should I test the 4066?

The 4001 is good - I tested it's logic function and when both side are ground it goes high.

The 555 is good I tested by setting it up as a clock (I then made a cheesy sequencer with a 4017 =) Again is my Pot wiring right or should I go back to the wrong way?

Thanks again guys and sorry for bringing this up again...

-dustin

shokwave
Posted 02/02/2004

Gate should be +5V, I think....

fadeddata
Posted 02/02/2004

So blasting it 15 Volts probably wasn't a good idea?
Would that blow the 4066?

dustin

t.stinchcombe
Posted 02/03/2004

As long as the control voltages and those being switched are basically derived from the same supply to the chip (I assume it's powered by 0-15V), then you should have no problems. The same goes for the 4001, so using a 15V gate will be OK. 4000B series CMOS stuff is pretty easy to use, with supplies generally from 3V to 15V (and some even up to about 18V) and has far fewer considerations than say TTL. (But there are a few exceptions - 4051/2/3 come to mind.) This ease of use is probably the main reason so many people like to use it.

Tim

fadeddata
Posted 02/12/2004 12:39:07 AM

Ok I'm back at it :)
Anyhow I fixed a few weird things but the TL072 is still heating up and there is no env. Is Pin 7 of the TL072 supposed to be 15v? and Pin 5 is 1v not 0.5 like the schematic says. Also Pin 2 of the 555 Never goes high or low it just stays high but pin 10 of 4001 does go low and vice versa depending on gate. Do the caps that show polarity need to be polarized? I could see that as being important. I've pretty much refused giving up and will get this thing going :)

-dustin

fadeddata
Posted 02/12/2004

Ok hopefully this will help everything make more sense...
So I've tested every configuration of the 4001 and 4066 and each goes high or low at the right ways at the right times. (Although educationally wise I'm wondering why Tom went through one Gate into another just to switch the signal back to positive or vise versa at the beginning of the circuit). I don't know if the 555 is working what am I supposed to be seeing? Also point F-E-D are all the same. I would think that if I'm turning the pot it would change? But pin 7 off the 555 is always +15 volts. Also the TL072 might have fried again but I'll wire it up as a voltage follower later and find out.
Hey thanks for at least reading this I wish I was more of an electronics expert eh :)

-dustin

tomg
Posted 02/12/2004

Hey, still having problems huh? OK...
o ADSR switch open (ADSR Mode) U1(pin11) is high. U2 switches 1,2,13 - 3,4,5 and 10,11,12 are closed. U1(pin1)is connected to U3 (pin4) and D3. D1 is connected to the sustain-pot.
o The gate goes high.
o Low going pulse from (U1 8,9,10/C4) triggers 555 (U5)
o 555 reset (pin4) is held high by (U1 1,2,3)
o 555 out (pin3) goes high through D2/Attack-pot charging C7
o When opamp U4 reaches the threshold point (555 pin6) (555 pin3) goes low.
o C7 discharges through D1/Decay-pot the the level set by the sustain-pot and the 555s internal discharge transistor.
o When the gate is removed 555 reset (pin4) is held low by (U1 1,2,3. C7 continues to discharge through D3/Release-pot until it reaches zero.
Hope that helps some.

tom

fadeddata
Posted 02/12/2004

YOU ROCK Tom! I will check this stuff out tonight. Hell I'm going to print that post and add it my notes :) That makes sense (of coarse I just woke up...)
Thanks again,

dustin