

Date: Fri, 23 Aug 2002 22:46:25 -0400
From: harry
Subject: VCF1e mod...

Although it should have taken less than a year to get around to figuring this problem out... I finally have.

My VCF1e (s) have a problem where they will not go to subaudio on the low end... I use the 2SA798 pair for Gm bias control... but I suspect that other transistors will behave in much the same fashion.

I was first alerted to the 'feature' by Eduardo, whose SBM VCA's did not close fully. We screwed around with this for a while... finally I suggested a single transistor solution for the bias that would be SURE to shut off if the CV went to ground, or negative....

But still I had this lurking suspicion that something was amiss. No amount of CV could drive the filter Fc deeper... and using larger caps just ruined the high end...

It turns out that the Current source for this filter will not go to 'zero'... it stops at a microamp or two...

So I've added a resistor from the Gm bias pins to the negative rail. Its enough to keep the current from entering the OTA by shunting a microamp to ground. My simulations showed that a 1meg resistor would be enough... in my real life situation I found 100K to be correct. You don't want to cut the Gm bias all the way off... or there is a DC level shift. I just wanted it to go down to near sub-audio....

...and it does. Try it if you are having the same situation.

H^) harry

Date: Sat, 24 Aug 2002 14:17:05 -0500
From: "e4m"
Subject: Re: VCF1e mod...

Or change R43 from 10K to 33K....

Date: Mon, 23 Sep 2002 09:37:37 -0700 (PDT)
From: o
Subject: Re: better parts lists anywhere? - vcf1e

I'm interested in seeing updated info for the vcf1e. The .pdf doc shows 4 pots/knobs on the front panel, my kit came with 5 pots/knobs, and the label has 6 knobs on it. Does anyone have a more up to date schematic? Also, where can I get an assortment of the pretty little blue resistors? My kit was missing one, and I could stand to have a spare assortment around.

Also, could someone explain which pins go where on the jacks?

thanks,
Kevin

Date: Sun, 06 Apr 2003 04:18:04 -0000
From: "David"
Subject: vcf1 resonance

alright, i bought a couple vcf1's tonight, and i found that the resonance doesn't seem to be working on them. first of all, are these things supposed to self-oscillate? even if they don't, i'm still not really getting anything by boosting the resonance.

now, the schematic shows that the output of part of U2 goes through R14 and then into pin 3 of U1. On my board however (i have an updated board), it goes to pin 2 instead of 1. will this cause the problem? i'm also not positive that my bandpass is working properly...but i can't really pinpoint anything. maybe the two problems have something to do with each other?

david

Date: Thu, 15 May 2003 01:56:07 -0000
From: "Jeff Brown"
Subject: VCF1F

Is there any way to get the schematic for the VCF1F? I ordered the VCF1E a while back and got it instead. From looking at the PCB, it looks somewhat similar (assuming the IC's are the same) but I would really hate to try to reverse engineer it.

Date: Wed, 23 Jul 2003 18:56:28 -0000
From: "Fernando"
Subject: VCF1e notch out?

Hi,

I see on the proposed panel for this multimode filter that there is a NOTCH output with a pot marked 5-0-5. I know you get notch response by mixing HP + LP, but I do not understand how can I implement that control and what is controlling. It is a "balance" control? (more HP....both equal at center -so normal notch-.....more LP)

How can I do it? I don't see any pad or clue on the schematic.

Thank you very much,
Fernando

Date: Wed, 23 Jul 2003 18:39:10 -0700
From: "tomg"
Subject: Re: VCF1e notch out?

Exactly....Use a 100K pot. Put HP out to the max terminal and LP out to the min terminal. Take the Notch-out from the wiper terminal.

Tom

Date: Sat, 04 Oct 2003 10:00:57 +0200
From: "troels jrgensen"
Subject: vcf1e

hi...
i just almost finished the vcf1e...
the thing is: the vcf1e used to feature an extra filter, but it has now
been converted into a vca... but the schematics only show the connections
for the filter, and not the vca.... any good ideas???

troels.

Date: Sat, 04 Oct 2003 08:12:23 -0000
From: "thel9thbear"
Subject: vcfel

i searched the site... and i found some corrections/fixes to the vcf1e....
but do i still need to apply them?? did you (tomg) fix the circuit board
instead?? i have done the fixes that i was told to in the pdf schematic on
the efm site... but is that all??

Thanks

Date: Sun, 05 Oct 2003 11:59:31 +0200
From: "troels jrgensen"
Subject: vcf1e toast HELP!!

argh... i think i toasted something! mayby everything!

well... does anyone have a clue why Q4 keeps burning?? then if i take the
q4 out and turn the t1 trimmer to its extremes, i can see FIRE in the pot!
and then the pot is burned... and also the same with the freq pot! burned
too! is there any "reference" voltage-points for the ic«s.. cause i want
to know if they are toast too.. they dont feel hot though..

i know i DIDNT reverse the power connection.. so that couldnt be it.. i
checked/measured all the resistors before putting them in place... and the
only thing that could really go wrong with this filter, should be
reversing some of the transistors...(correct me if im wrong) but they are
all placed as the circuitboard«s little drawings... (not the schematic,
cause i dont know wich one are b,e,c on the transistors..)

i need help! troels.

Date: Sun, 5 Oct 2003 13:26:50 +0200
From: Yves Usson
Subject: Re: vcf1e toast HELP!!

Hi,
What you you describe suggest that there probably is some kind of short circuit.
Did you check for any solder bridge ?
Yves USSON

Date: Sun, 05 Oct 2003 11:54:55 -0400
From: Dave Magnuson
Subject: Re: vcfile toast HELP!!

I notice you mentioned that you're unsure which legs of the transistors are E, B, and C. If I were you, I'd find the brand of transistor, and check the manufacturer's website for a datasheet. Then check on the schematic and see where each leg should be. Transistors made in the US have a different pinout than equivalents from Japan, etc. That would be one of the first things I'd check.

To identify the transistor pinout on the schematic is pretty simple: Emitter has the arrow, base is in the "center" and collector is opposite from the emitter. to identify NPN vs PNP, remember this rule. On an NPN transistor, the emitter is "(N)ot (P)ointing i(N)"... so the arrow points away from the base. A PNP has the emitter pointing in towards the base.

Hope this helps... unfortunately I didn't build a VFC1, so I don't know if there were any other mods/fixes required.

Date: Sun, 5 Oct 2003 13:33:27 -0400
From: "elmacaco"
Subject: Re: vcfile toast HELP!!

Dave's right, check your datasheets for the transistors, a search for the brand name should get you the pin out, and follow the schematic.

Oh, and get new pots!

Date: Mon, 06 Oct 2003 12:05:48 +0200
From: "troels jrgensen"
Subject: Re: vcfile toast HELP!!

by the way... is the BC558 a good substitute for the 2N3906?? or do you have any other suggestion??

thanks again! troels

Date: Mon, 6 Oct 2003 12:15:15 +0200
From: Yves Usson
Subject: Re: vcfile toast HELP!!

Yes BC558 should do either as BC557. however be careful about the pins which reversed with reference to 2N3906

Date: Mon, 06 Oct 2003 13:20:50 +0200
From: "troels jrgensen"
Subject: Re: vcfile toast HELP!!

ok... i found some bc560.... could that be used too??....

Date: Tue, 07 Oct 2003 12:41:12 +0200
From: "troels jrgensen"
Subject: Re: vcfle toast HELP!!

ok... I tried with the bc560 transistors.... and it turned out that every transistor, except 2, had to be reversed , in reference to the pcb board drawing!!.... put q4 still gets very hot... this time it doesnt burn right away, but if i left the power on i know it would burn.... and this happens even if i take out all the ic's, so I'm thinking that it has to be some short-circuit. by the way... in the vcfle pdf manual, when it says " jump to here" does it mean that I have to disconnect the jumper in one end, and put it where the arrows pointing, or leave the jumper connected in both ends, and make a new jump to where the arrows pointing??

well... hope Tom or someone who build this thing can help me out...

and thanks for the replies everyone!!!

Troels

Posted 11/10/2003, 09:09:04 AM

thanks for helping me out with the vcfle..

i now have the filter closing!

but what about the vca conversion?..

what wires go from and too vca, init pot/vca cv/vca in/vca out??
im a bit confused, because the link harry send me
<http://ele4music.com/vcf1f/vcf1f.html>
had a vca shem, but it has pins 13 and 14 on u3 reversed in reference to the vcfle pdf file..

thanks again
troels.

tomg
Posted 11/11/2003, 7:16:07 PM

If you have the 1e board and want to convert the 1p filter to a vca..

- o Remove R9
- o Replace C3 with a 33K resistor and connect the loose end to gnd.
- o Cut the trace connecting R6 to R7 and connect R6 to R8 (U3 - pin14)
- o If you need an offset connect a 1M resistor to R7 (U3 - pin13). Solder another trimmer's back two pins to T1's back two pins and the wiper to the 1M resistor going to R7.
- o Harry likes to run a 1M resistor from (U3) pin16 to -V.

Tom

the19thbear

Posted 11/13/2003, 05:17:03 AM

i did that... except for the offset trimmer... but what about the vca/init pot?, and still: what wires go from and too vca, init pot/vca cv/vca in/vca out sorry if it is obvious.. but im not much into electronics..

tomg

Posted 11/13/2003, 05:57:27 AM

I got you now...

- o Change R6 to 100K
- o Change R2 to 68K
- o CV - pad (A)
- o Init level - pad (B)
- o Input - pad (C)
- o Output - pad (E)

Tom