

## List of electronic components needed to upgrade to DVI output.

### Thanks go to:

- "Gold Leader" for providing his original V5 PCI MAC.
- "Physikant" for his meticulous work.
- "Anthony" for his helpful hints.
- "Ciacara72" for helping finding parts and technical tips
- "CryptonNite" for finding closer infos, links to websites
- "Löschzweig" for spelling correction.
- "CryptonNite" for technical support
- "Chosen\_One" for providing BIOS ROM's
- "bschicht", "Lotosdrache", "Bier.jpg" for technical advice and sensible questions

Of course, all the other people who participated in the thread and pushed this project forward with their contribution of knowledge and experience.

*Voodooalert "Backfire"*

**RED** means: Equip with corresponding component.

**BLACK** means: **Do Not Populate** with part or remove installed part. (DNP)

### **Important note:**

Please never start this work unless you have at least semi-professional knowledge and skills in microelectronics. The traces and pads are highly sensitive and easily ruined. Therefore, strictly speaking, you have only one attempt which, if it fails, can cause hard-to-repair damage to your card. Therefore, my strong recommendation is to let someone who has experience do it.

As Master Yoda said: Do it or don't do it, there is no try.

### **Recommended tools:**

- Stereo working microscope or a damn good magnifier
- Preheating device
- Soldering station with very fast control and depot soldering tip
- High quality flux
- High quality SMD solder
- High quality SMD tweezers
- PCB aids

### The parts and components

The ferrite beads are recommended to be used. You can try 0,22µH SMD coils instead. I did it on a V4 4500 and it works properly.

All capacitors except C11 are MLCC types. We prefer high quality parts like MuRata or KEMET.

First of all - please **remove** following components:

**R34** - To be found on the front side PCB  
**R 574** - To be found on the back side PCB  
**R575** - To be found on the back side PCB

### ## FRONT PCB ##

#### CONNECTOR

**P1 Molex 743204004**

#### INTEGRATED CIRCUITRY

**U1 Sil 164 CT 64**  
**U3 74 HCT 4052 M**  
**VR1 PQ1R33**

#### DIODES

**CR7 BAV99**  
**CR8 BAV99**  
**CR11 BAV99**

*CR01 DNP*  
*CR02 DNP*  
*CR03 DNP*  
*CR04 DNP*  
*CR05 DNP*  
*CR06 DNP*  
*CR09 DNP*  
*CR10 DNP*

## CAPACITORS

<b>C1</b>	<b>10<math>\mu</math>F / 1206 / X7R</b>	(3,3 $\mu$ F on original PCI MAC)
<b>C2</b>	<b>100nF / 0603 / X7R</b>	(10nF on original PCI MAC)
<b>C3</b>	<b>100nF / 0603 / X7R</b>	
<b>C6</b>	<b>100pF / 0603 / C0G</b>	
<b>C9</b>	<b>10<math>\mu</math>F / 16V / X7R / 1206</b>	(3,3 $\mu$ F on original PCI MAC)
<b>C10</b>	<b>100pF / 0603 / C0G</b>	
<b>C11</b>	<b>10<math>\mu</math>F / 10-16V / 3,9mm</b>	
<b>C12</b>	<b>100pF / 0603 / C0G</b>	
<b>C16</b>	<b>10<math>\mu</math>F / 16V / X7R / 1206</b>	(3,3 $\mu$ F on original PCI MAC)
<b>C20</b>	<b>10<math>\mu</math>F / 16V / X7R / 1206</b>	(3,3 $\mu$ F on original PCI MAC)

## RESISTORS

<b>R1</b>	<b>10 k<math>\Omega</math> / 0603</b>
<b>R3</b>	<b>100 <math>\Omega</math> / 0603</b>
<b>R5</b>	<b>430 <math>\Omega</math> / 0603</b>
<b>R10</b>	<b>100 <math>\Omega</math> / 0603</b>
<b>R11</b>	<b>10 k<math>\Omega</math> / 0603</b>
<b>R12</b>	<b>10 k<math>\Omega</math> / 0603</b>
<b>R20</b>	<b>100 <math>\Omega</math> / 0603</b>
<b>R23</b>	<b>4,7 k<math>\Omega</math> / 0603</b>

*R2 DNP*

*R7 DNP*

*R8 DNP*

*R17 DNP*

*R18 DNP*

*R19 DNP*

*R13 DNP*

## LOCATION: L/H SIDE OF HEATSINK

**R21 220  $\Omega$  / 0603**

## LOCATION: L/H SIDE OF RAM

*R34 DNP* ←-- **HAS TO BE REMOVED!!**

## INDUCTIVITIES

**L9 Ferrite Bead 0805 220  $\Omega$**

**L10 Ferrite Bead 0805 220  $\Omega$**

**L11 Ferrite Bead 0805 220  $\Omega$**

## ## REAR PCB ##

### CAPACITORS

**C573 100pF / 0603 / C0G**  
**C574 100pF / 0603 / C0G**  
**C575 100pF / 0603 / C0G**  
**C576 100nF / 0603 / X7R**  
**C577 100pF / 0603 / C0G**  
**C578 100pF / 0603 / C0G**  
**C583 220pF / 0603 / C0G**  
**C587 100nF / 0603 / X7R**  
**C588 220pF / 0603 / C0G**

### RESISTORS

**R556 10 k $\Omega$  / 0603**  
**R558 100  $\Omega$  / 0603**  
**R560 100  $\Omega$  / 0603**  
**R563 10 k $\Omega$  / 0603**  
**R577 100  $\Omega$  / 0603**  
**R578 10 k $\Omega$  / 0603**

*R554 DNP*  
*R555 DNP*  
*R557 DNP*  
*R559 DNP*  
*R561 DNP*  
*R562 DNP*  
*R579 DNP*

### INDUCTIVITIES

**L502 Ferrite Bead 0805 220 Ohm**  
**L503 Ferrite Bead 0805 220 Ohm**  
**L504 Ferrite Bead 0805 220 Ohm**  
**L505 Ferrite Bead 0805 220 Ohm**

### FUSE

**F501 1210 500mA Fuse**

### LOCATION: Bottom

*R574 DNP* ←-- **HAS TO BE REMOVED!!**  
*R575 DNP* ←-- **HAS TO BE REMOVED!!**