

Total solder points: 147

Difficulty level: *beginner* 1 2 3 4 5 *advanced*

VIDEO SIGNAL CLEANER



K8036


Digitally cleans the video signal of unwanted distortions and improves the picture quality.

Features:

- ☑ Digitally cleans the video signal / removes unwanted distortion in video signal
- ☑ Stabilises picture quality and luminance fluctuations
- ☑ Improves picture quality on LCD monitors or projectors
- ☑ S-video and composite video in- and output (S-video and composite video signals can not be mixed)
- ☑ Led indication when distorted video signal detected
- ☑ For PAL / NTSC video

Specifications:

- Power supply: 9Vdc / 100mA min. (adapter required)
- Dimensions: 100 x 84mm (4.0" x 3.3")
- Recommended adapter: PS905

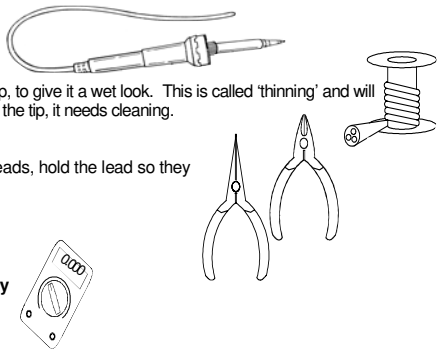
 **warning:** only use to make personal backup copies from original video material from which you are the rightful owner (DVD, VHS, VCD, ...). Check copyright information on the original material.

1. Assembly (Skipping this can lead to troubles !)

Ok, so we have your attention. These hints will help you to make this project successful. Read them carefully.

1.1 Make sure you have the right tools:

- A good quality soldering iron (25-40W) with a small tip.
- Wipe it often on a wet sponge or cloth, to keep it clean; then apply solder to the tip, to give it a wet look. This is called 'thinning' and will protect the tip, and enables you to make good connections. When solder rolls off the tip, it needs cleaning.
- Thin raisin-core solder. Do not use any flux or grease.
- A diagonal cutter to trim excess wires. To avoid injury when cutting excess leads, hold the lead so they cannot fly towards the eyes.
- Needle nose pliers, for bending leads, or to hold components in place.
- Small blade and Phillips screwdrivers. A basic range is fine.



For some projects, a basic multi-meter is required, or might be handy

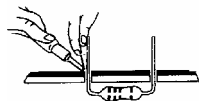
1.2 Assembly Hints :

- ⇒ Make sure the skill level matches your experience, to avoid disappointments.
- ⇒ Follow the instructions carefully. Read and understand the entire step before you perform each operation.
- ⇒ Perform the assembly in the correct order as stated in this manual
- ⇒ Position all parts on the PCB (Printed Circuit Board) as shown on the drawings.
- ⇒ Values on the circuit diagram are subject to changes.
- ⇒ Values in this assembly guide are correct*
- ⇒ Use the check-boxes to mark your progress.
- ⇒ Please read the included information on safety and customer service

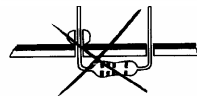
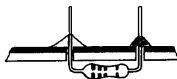
* Typographical inaccuracies excluded. Always look for possible last minute manual updates, indicated as 'NOTE' on a separate leaflet.

1.3 Soldering Hints :

1- Mount the component against the PCB surface and carefully solder the leads



2- Make sure the solder joints are cone-shaped and shiny

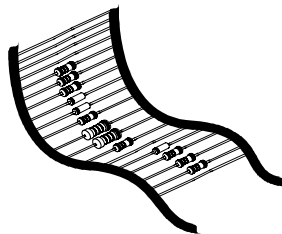


3- Trim excess leads as close as possible to the solder joint



REMOVE THEM FROM THE TAPE ONE AT A TIME !

AXIAL COMPONENTS ARE TAPED IN THE CORRECT MOUNTING SEQUENCE !



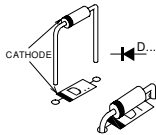
1. Jumper wires

- J1
- J2

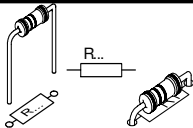


2. Diodes. Watch the polarity!

- D1 : BAT85
- D2 : 1N4148
- D3 : 1N4148
- D4 : 1N4007



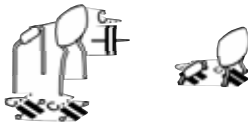
3. Resistors



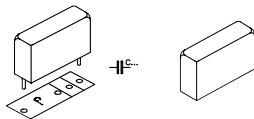
- R1 : 12K (1-2-3-B)
- R2 : 470 (4-7-1-B)
- R3 : 220 (2-2-1-B)

- R4 : 220 (2-2-1-B)
- R5 : 470 (4-7-1-B)
- R6 : 680K (6-8-4-B)
- R7 : 150 (1-5-1-B)
- R8 : 270 (2-7-1-B)
- R9 : 820 (8-2-1-B)
- R10 : 100 (1-0-1-B)
- R11 : 1K5 (1-5-2-B)
- R12 : 270 (2-7-1-B)
- R13 : 10 (1-0-0-B)
- R14 : 560 (5-6-1-B)

4. Capacitors



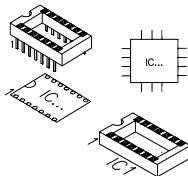
- C1 : 560p (561)
- C2 : 560p (561)
- C3 : 100n (104)
- C4 : 100n (104)
- C5 : 100n (104)
- C6 : 100n (104)
- C7 : 100n (104)



- C8 : 100n / 63V
- C9 : 100n / 63V

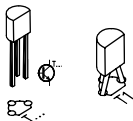
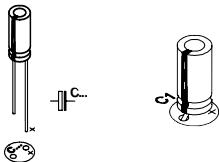
5. IC sockets, Watch the position of the notch!

- IC1 : 8P
- IC2 : 14P
- IC3 : 8P
- IC4 : 8P



6. Transistors.

- T1 : BC557
- T2 : BC547

**7. Electrolytic Capacitors.
Watch the polarity !**

- C10 : 10 μ F / 50V
- C11 : 220 μ F / 16-25V
- C12 : 220 μ F / 16-25V
- C13 : 220 μ F / 25V

**8. DC jack. Mount it straight
against the pcb surface!**

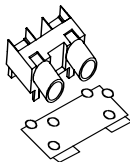
- SK1 : 9V DC

9. S- video connec-

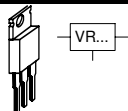
- SK3 : S-video out
- SK4 : S-video in

10. Dual RCA Jack

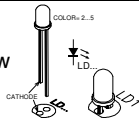
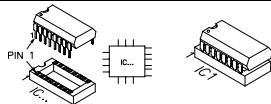
- SK2

**11. Voltage regula-**

- VR1 : UA7805

**12. LEDs. Watch the polarity !**

- LD1 : 3mm Red
- LD2 : 3mm Yellow

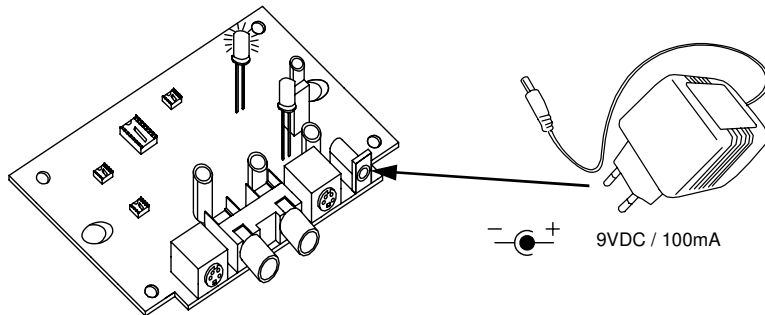
**13. IC's. Check the position
of the notch !**

- IC1 : Programmed (PIC12C508A)
- IC2 : CD4066B
- IC3 : LM1881N
- IC4 : TL072

14. Hook– up to your system

Inspect the complete assembly once more before applying power to the unit !

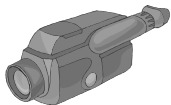
An adaptor jack allows hook-up of a suitable 9VDC / 100mA wall adaptor. Make sure the input voltage matches your domestic AC voltage. Mind the polarity !



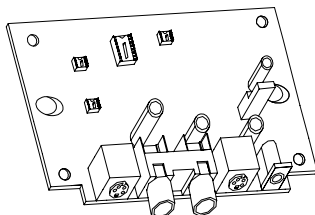
Plug the adapter into a wall outlet. Check if the power supply led LD1 (red) is lit. This means that the voltage is correct. LD2 (yellow) will flash when the source video signal is copy protected, LD2 will lit if video signal is present. The unit is now ready for use.

Connection with composite signals

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DVD OR VCR VIDEO SOURCE



Video Input

Video Output

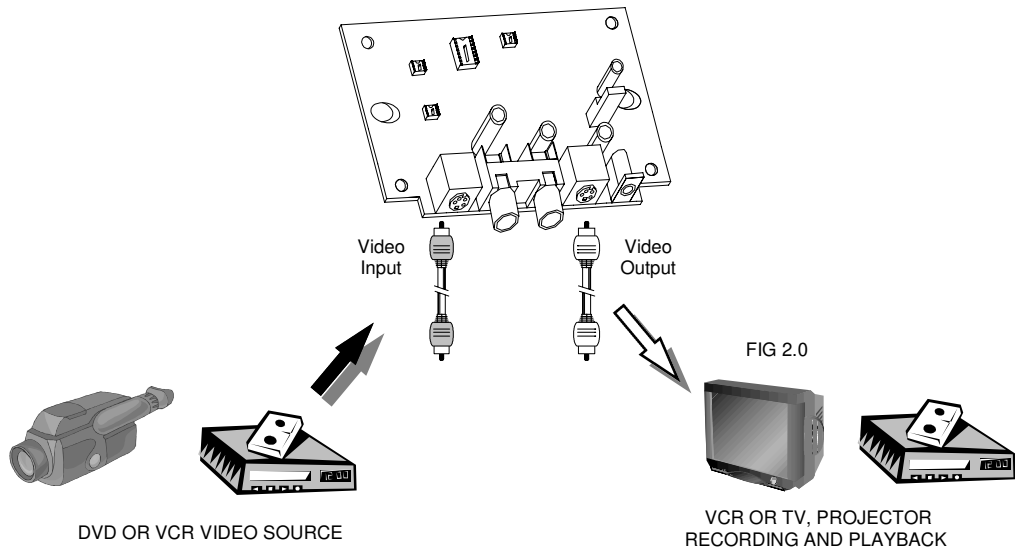
S-video and composite video signals can not be mixed.

FIG 1.0

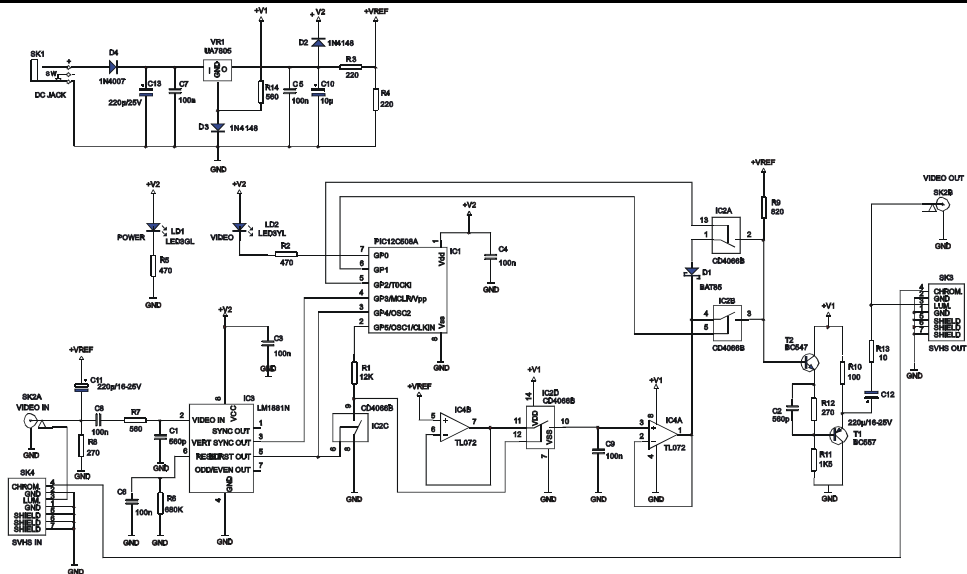


VCR OR TV, PROJECTOR RECORDING AND PLAYBACK

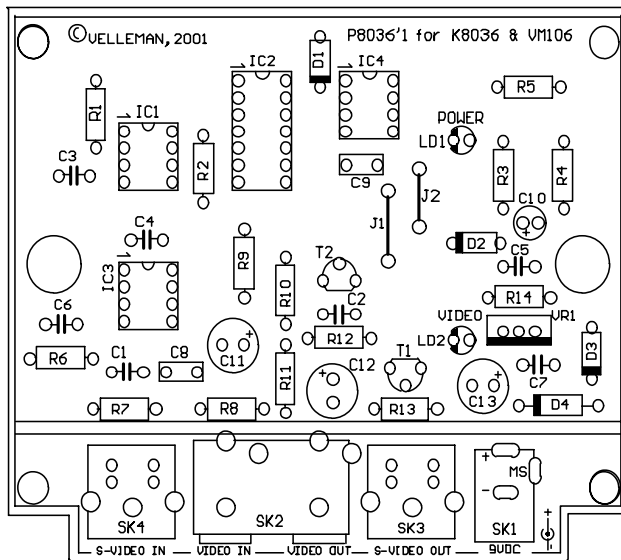
Connection with S - Video signals



15. Schematic diagram.



16. PCB





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