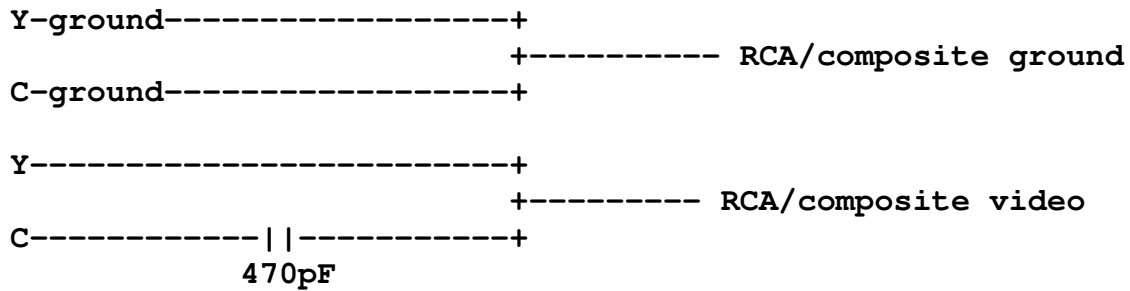


S-video to composite video adapter

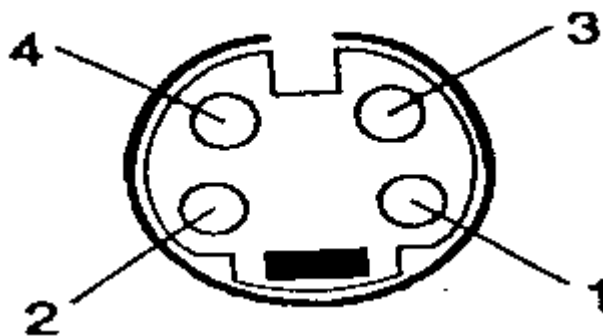
This simple adapter can be used to convert Y/C video (S-video) to a composite video. This adapter is useful in cases where your video output device has only S-video output but your signal source accepts only composite video input. This circuit works with both PAL and NTSC video standards.



This circuit can be quite easily build inside a the S-video connector case if a physically small size 470 pF (ceramic) capacitor is used. Larger capacitor values will also work, but cause picture to become "softer". The voltage rating of capacitor can be 10V or more.

This circuit works in practice quite well even though the circuit operation is not ideal. This means that impedances and signal levels not matched exactly right, but near enough to work accetably. The picture quality you get from this circuit is is good, but not as good as with best possible composite video output circuitry.

Here is the pinout of the S-video connector shown from the end with the FEMALE PINS (picture is a view on the equipment back/front panel):



- 1 Y ground
- 2 C ground
- 3 Y (luminance+sync)
- 4 C (crominance)

What if my PC graphics card has a 7-pin S-video connector instead of 4-pin ?

The four pin S-video connector as shown above is the standard connector for carrying S-video. Those seven pin connectors seen on some PC graphics cards are non-standard connectors for carrying S-video. The use of the pins on those seven pin connectors is not standardized and can vary from manufacturer to manufacturer. (For some strange reasons some manufacturers in PC industry just keep constantly breaking the industry standards and create lots of confusion to users when doing so).

Generally the four pins on those 7-pin connectors on the same places as the standard four pin S-video connector have practically always the same functionality as those pins in S-video connector. The other three pins can have then some extra signals which are not part of S-video (usually some pins of those carry composite video and some control signals, but the use of those three extra pins vary quite much). So if you encounter 7 pin connector for S-video, then forget the three center pins... just use the four on the standard positions. The circuit should work with those connectors as well.

Can the circuit used in other way ?

If you try to connect the circuit in opposite way so that you have a composite video signal which you want to feed to S-video input then you might wonder would this circuit work also in that way. The answer is that the circuit sort of work also in this way. If you connect a composite video source to a S-video input of your TV using this circuit, you will get a full color picture on your TV screen. The downside of this is that the picture quality will be worse than if you were using the real composite video input of your TV. The reason for this is that after the circuit the color information is still in the brightness signal, so you see some interference on the screen caused by color subcarrier which gets to the screen. This all means that you can use this circuit as last change in situations where you don't have a composite video input. The picture quality is degraded, but probably still usable for some not so demanding applications. A real well working solution would be much more complicated than this circuit.