

# ***TV cards and external Devices***

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## **„The picture could be better...“**

Approximately 70% of all questions concerning TV cards address this issue. In fact, unrealisable expectations or a simple lack of knowledge about correctly connecting external devices to a TV card account for almost all cases where picture quality becomes a problem.

### **1. Connecting an analogue TV card**

An analogue TV card means the card has an analogue tuner and/or video input. TerraTec features the TValue and Cinergy cards in this category, which utilize the standard tuner / composite input combination.

<b>Component</b>	<b>Color</b>	<b>Description</b>
Tuner In	Silver	This input serves the standard 75 Ohm coaxial cable, which is typical of cable TV or terrestrial antennas. After being converted to video information the signal is sent directly to the analogue/digital converter. The demodulated tuner sound is forwarded to the Line-Out on the TV card, which then should be connected to either the Line-In on the soundcard or directly to an <i>active</i> speaker set or stereo receiver.
Composite In	Yellow	The composite port is for analogue <i>video-only</i> in FBAS color format. The sound must be routed separately to the Line-In on the TV card or soundcard.
S-Video In	Black	This round port can handle the full capabilities of an S-Video cable signal, but decodes only the FBAS signal and therefore has no quality advantage compared to the composite In. Should the S-Video cable not send the complete content (cable layout dependent) a black & white picture will result.
Audio In (Line-In)	Blue	Stereo Input, i.e. for external device audio routing.
Audio Out (Line-Out)	Green	Stereo Output, delivers the corresponding TV audio signal to the speakers. This port has to be connected to an <i>active</i> speaker set or Line-In on the soundcard. Be sure the Line-In on the soundcard is active :-)

## 2. Which input for what function?

Depending on the source several connection options are possible, but in practice only one really makes sense. The aim is to avoid unnecessary modulation and demodulation.

### What is modulation?

Modulation is, simply put, the conversion of a video signal into a high frequency (HF) signal, which then complies with the communications engineering standard. For example let us take a video signal broadcast from a TV studio (HF) and displayed (demodulated) in turn by the TV tuner. The same happens when a VCR sends data to a TV over the VCR antenna output.

The biggest problem: Modulation and demodulation can lead to quality loss that is sometimes not to be ignored (i.e. TV reception distortion makes itself visible when bad weather conditions exist).

Source	Tuner	Composite	S-Video	Audio-In
TV antenna	Practical	Not possible	Not possible	Not possible
Cable TV	Practical	Not possible	Not possible	Not possible
VCR	Not practical!	Practical	Practical	Necessary
Satellite receiver	Not practical!	Practical	Practical	Necessary
Video camera	Not possible	Practical	Practical	Necessary
Digital receiver	Not practical!	Practical	Practical	Necessary

The most common error is connecting a VCR or Satellite receiver over the antenna input. This may be the cheapest way to go about it, but also demonstrates the perfect method of drastically decreasing the TV card image quality. First, two unnecessary modulations occur. Secondly, the common channels belong to the frequencies (UHF 3x) particularly susceptible to creating PC hardware distortion. Often in such cases the channel scan cannot even properly identify the signal coming from the antenna input and simply ignores it.

It is indispensable in such cases to use a Scart -> Composite (FBAS) adapter, which separates the signal from the VCR Scart port into a video output (Yellow) and a 3,5mm mini-jack audio output. Should the VCR already have a composite output option (Yellow-Black/White-Red), this can of course be used directly. The same applies to satellite receivers.