

# Connecting to Humax YouView box

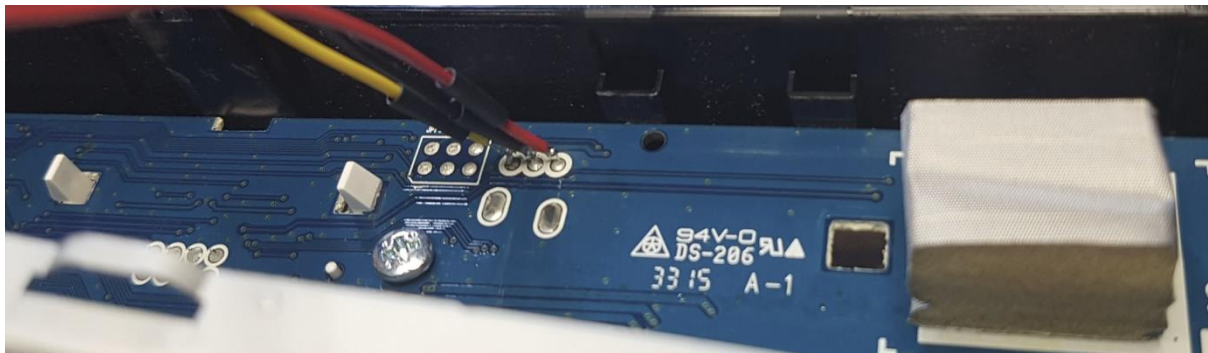
**WARNING – THIS WILL VOID WARRANTY** (get over it, or stop reading!!!)

**OTHER WARNING – TAKE GREAT CARE WHEN WORKING ON POWERED UP KIT**

## Connecting power and I/R signal

Open the box up, and identify the location of the infra red receiver. You know it is going to be on the front panel, and you know it will almost certainly have three pins, and that there will be part of the front panel which is more or less transparent (to Infra Red).

The back of the front panel for my Humax looks like this once I have connected the three wires, but before shrinking down the heat-shrink:



So how do I identify which wire is which on the I/R receiver module?

- 1) With the power off, use a multimeter in 'continuity test' or 'beep' mode to find the pin which is connected to the ground. You can pick up the ground either off the metal of the enclosure, or – perhaps more reliably – off the shield around the Ethernet connection or the 'cans' for RF receivers (near the antenna connections). I use black for ground.
- 2) Now, with the power on, carefully measure the voltage on the other two pins (with the negative lead on ground). One will read almost exactly 5V (or possibly almost exactly 3.3V), and the other will show a slightly lower voltage. The one with the higher voltage is the power pin – to which I connect a red wire - the one with the slightly lower voltage is the signal pin, to which I connect a yellow wire

Once you have connected up your wires, make sure the other ends are not touching each other, or anything else. Then re-power the kit and check that it works as normal.

## Power sensing

Now you need to find a point on the circuitry which reliably indicates whether the equipment is "on" or "off". Ideally, you want to find something you can safely solder to on the top of the board.

Initially I was expecting to be able to find a 5V or 3.3V rail which goes on and off when the equipment is on or off. But I couldn't – so far as I can see, the main difference between "on" and "off" is purely whether the front panel illumination is active, and whether the HDMI output is active.

Luckily, the model I have has a good old SCART socket, and I was able to identify a point to pick up the composite video. When the equipment was "on", the average voltage level of the composite

video was about 1V, and when it was “off” it went down to about 0.2V. That’s enough of a swing to operate the base of an NPN transistor.

If you can find a voltage rail, that would be better but there is only so much time one wants to spend prodding around on a powered printed circuit board.

Another possibility would be to pick up a signal from a front panel LED, but in my case, that would have been difficult as they are all surface mount, and under highly fragile-looking plastic clip-on mouldings.