Raspberry Pi with Raspbmc: Getting around Onkyo and Philips woes

The culprit with technology is always the same: to old, to buggy, something missing here and there.
Adding something new usually urges you to add even more to get it running, so in the end, yeah, you know, why didn't I stay with what I had before?

So to speak recently when I hooked a Raspberry Pi equipped with Raspbmc to my almost prehistoric Philips 42PF9966/10 plasma tv.
The reasing for doing so? Well, I use XBMC on a (jailbroken) Apple TV 2 for some time now and got fond of it.
Yet, for some obscure reason, the ATV2 only works properly when connected to my ultra cheap noname TV through HDMI.
With my Philips TV, the ATV2 would just refrain from working. All I'd get is a black screen and nothing else. Apple declares this being because of the connector type, because the Philips TV offers only one DVI digital input. Well, seems they didn't know that HDMI was designed for backwards-compatibility with DVI, it uses the same protocols, but ... yeah ... you know ... ;-)

So, when I heard about upcoming XBMC supporting the Raspberry Pi, I gave it a try.
I was happy to see that it indeed worked on my Philips TV. But since I had only one digital input, which was taken up by my Bluray player, I had to put a new A/V receiver in between to get enough inputs.

So after hooking up everything to my new Onkyo receiver through HDMI, connecting the later with HDMI-to-DVI to the Philips TV, I soon found that the Raspi wouldn't give video output. And neither would it give an audio signal. Still, the Sony BD player worked like a charm.

So I connected the Raspi directly to the Philips again, which finally gave a video signal, but only after rebooting the box. After reconnecting it to the receiver, I finally got a video singal through the receiver, but still no audio, and yet, it wouldn't last after the next reboot.

Reading on some Raspberry Pi internal workings, I found this:

- The Raspberry Pi does always fall back to Composite output if no HDMI display is found during startup
- If the HDMI display does not support audio capability, audio output on HDMI is disabled

Well, that seemed at least to explain it.
To get around it, I had to to force the Raspberry Pi to always drive the HDMI output, regardless if a display was connected or not.

According to http://elinux.org/RPiconfig these are the settings, that need to be added to /boot/config.txt to achieve this.

```
hdmi_force_hotplug=1
hdmi_drive=2
hdmi_group=1
```

However I still had some issues getting video output to work properly. Especially, I couldn't get stable 720p output, so I had to force it to 1080i. These symptoms went away using these settings:

```
config_hdmi_boost=4
hdmi_mode=5
```

Still I had no audio. To get this working, I had do force audio output via HDMI. Additionally, I really had to enable the "ignore edid" data mode, although I wouldn't expect my Philips TV being a "crappy Chinese one" as stated in the docs ;-)

hdmi_ignore_edid=0xa5000080
hdmi_force_edid_audio=1

After all, everything works fine now, so no reason to buy a new TV :-)