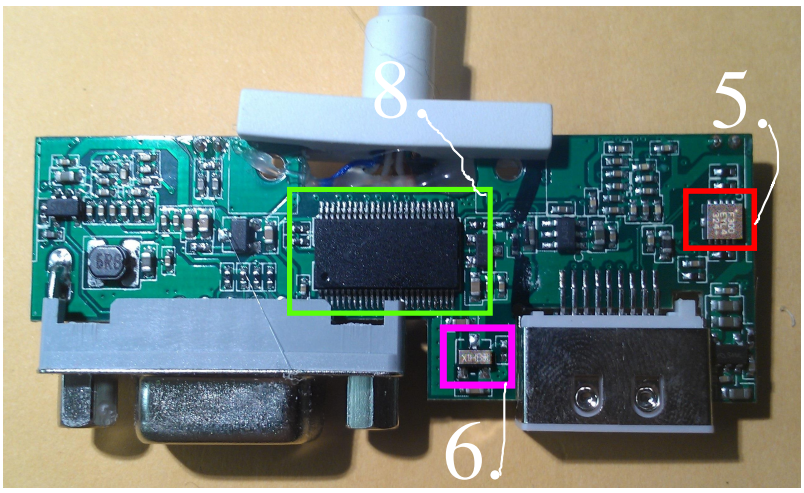
Generic Mini Display Port to HDMI and VGA Teardown

Authored: Brian Khuu (@ 2014 April) : www.briankhuu.com

This is just a generic adaptor brought from Ebay, and used without a fuss on the surface pro 2. Out of curiosity, I decided on a quick tear down and documentation of any visible ICs on this board (Assembled back together afterwards). Unfortunately there were two unmarked ICs, so I'm not too sure what it does. But hopefully this document might still be of interest to you. For your convenience, the block diagram of the two significant converter chips onboard is shown in this page.

Overall View

Bottom View



1. ANALOGIX's ANX9832 - Ultra Low Cost DisplayPort™ to VGA Converter - http://www.analogix.cn/sys/eWeb/upfile/635082748661718750.PDF
2. 27.000Mhz Crystal
3. ANALOGIX's ANX9830 - DisplayPort™ to HDMI Converter with HDCP and Audio Support - http://www.analogix.com/pdf/ANX9830_PB.pdf
2. 27.000Mhz Crystal
5. F300EYL4324
6. X1HB

7. Unknown IC - (Guess: For incoming miniDP signals. E.g. Multiplexing "Mainlink" signals between the VGA or HDMI converter)
8. Unknown IC - (Guess: Might be a microcontroller than handles the switching of the "Mainlink" signals.
This might be done by checking the status of each ANALOGIX converter chip over I2C interface, before commanding (7.) to divert the incoming miniDP signals to the currently active converter chip {the one currently plugged in})

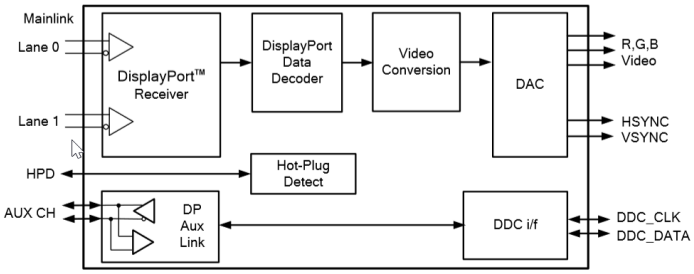


Figure 1: ANX9832 Block Diagram

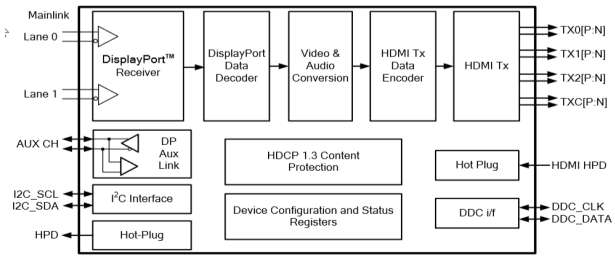
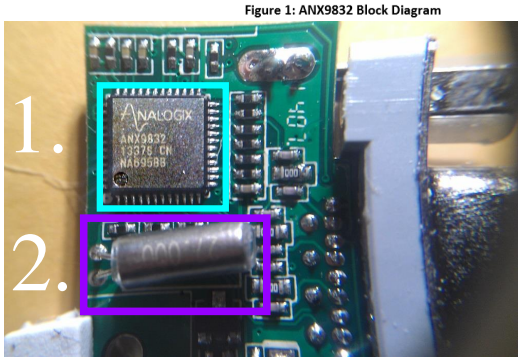


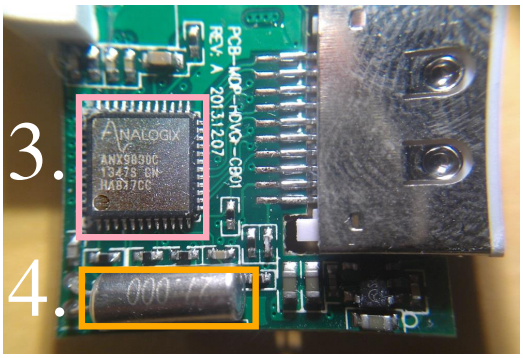
Figure 1: ANX9830 Block Diagram



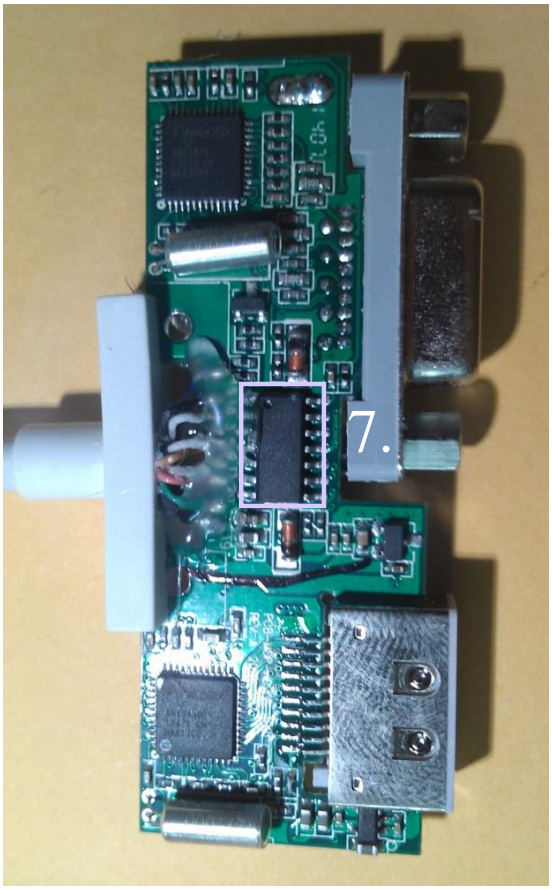
Upper Top View (VGA)

1. ANALOGIX's ANX9832
2. 27.000Mhz Crystal
3. ANALOGIX's ANX9830
2. 27.000Mhz Crystal

PCB-MDP-HDVG-CB01
REV: A 2013.1207



Lower Top View (HDMI)



Top View