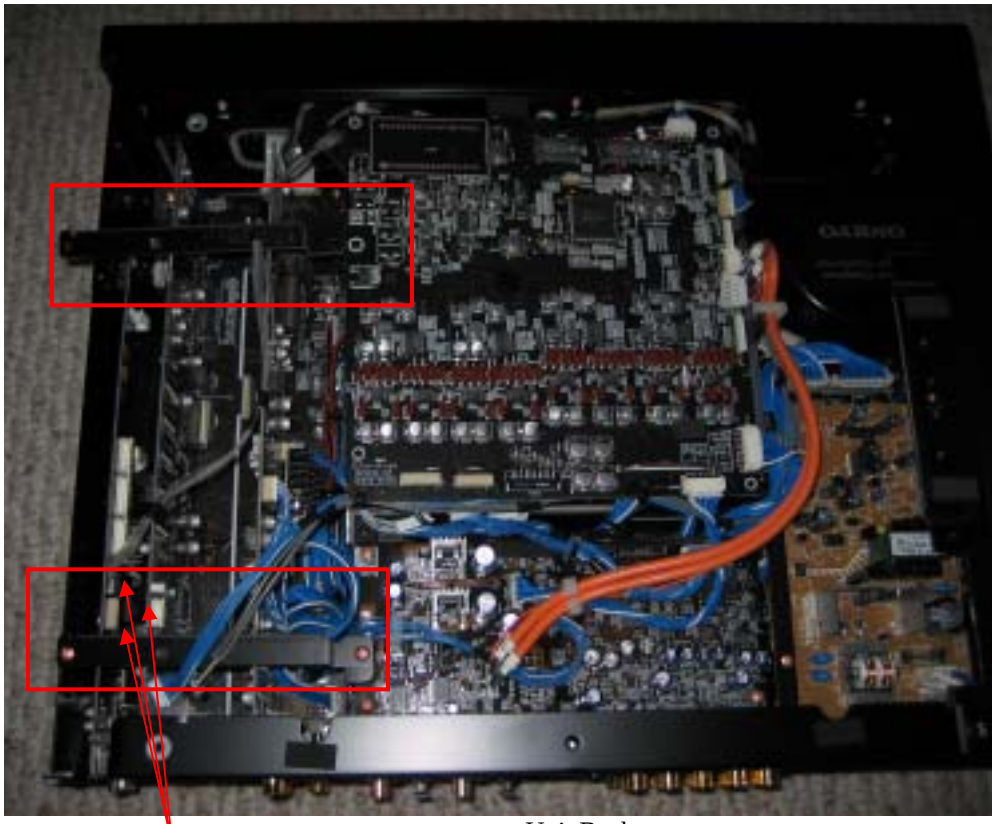
Safety: Disconnect from power. Ground yourself or work in a static sensitive station.

Disclaimers: ***Ask yourself if you are willing to take the risk of frying your Onkyo.*** *Remember that a static zap can kill a DVD player (yes, even an expensive one), as can a short circuit, a bad SDI circuit, an improperly seated board and many other reasons. Remember that your Onkyo SP1000 may be different than the one here. I am providing this document as a record of my actions, and make no claims that it will work on any machine, nor do I take responsibility for anyone's capability or luck in doing such a modification.*

Using a T-20 screwdriver, remove the top and left unit covers by removing 7 Torx screws from top and 4 Torx screws from left panel (left, as seen from the back of the unit). In the following photo, the front panel is at the top of the photo.
Using a Philips screwdriver, remove the three bridges securing the 3 daughter boards on the left side of the unit. The daughter boards, from left to right are: Serial connector and iLink, HDMI board with Oplus scaler and Sil504 de-interlacer, and the component/video output board with its own SiI504 de-interlacer.
Be especially careful with the top bridge. Taped to it are the SACD signals for the iLink. Gently lean it against the circuit board.

Unit Front

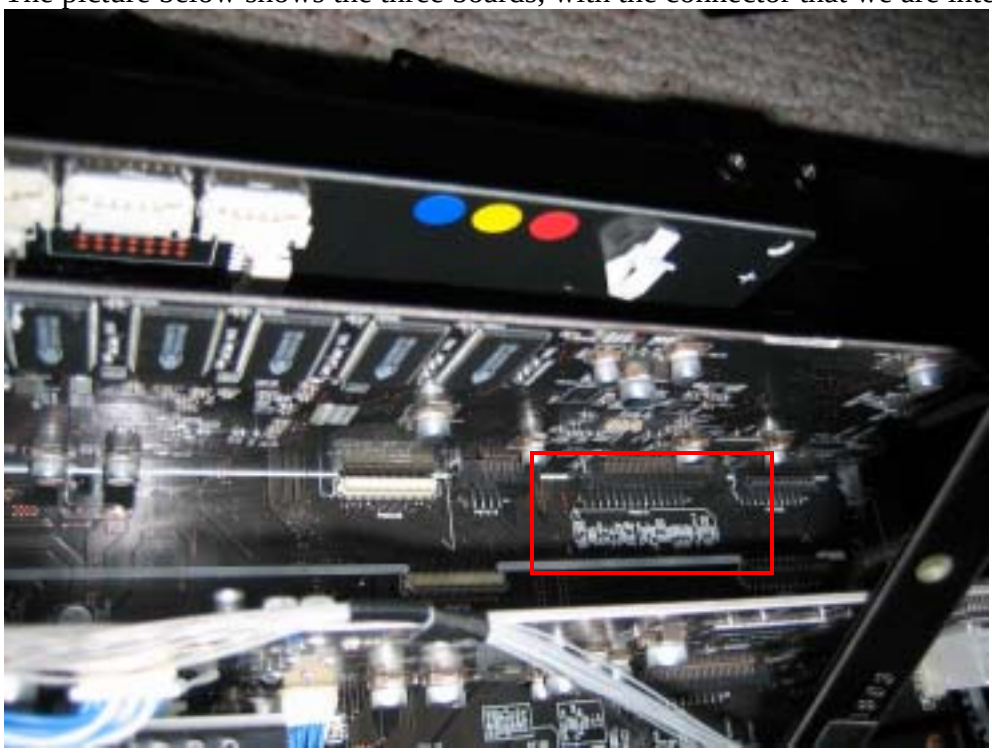


Unit Back

Connectors

Gently remove the 3 top mounted connectors from the left most board and the HDMI boards.

The picture below shows the three boards, with the connector that we are interested in:

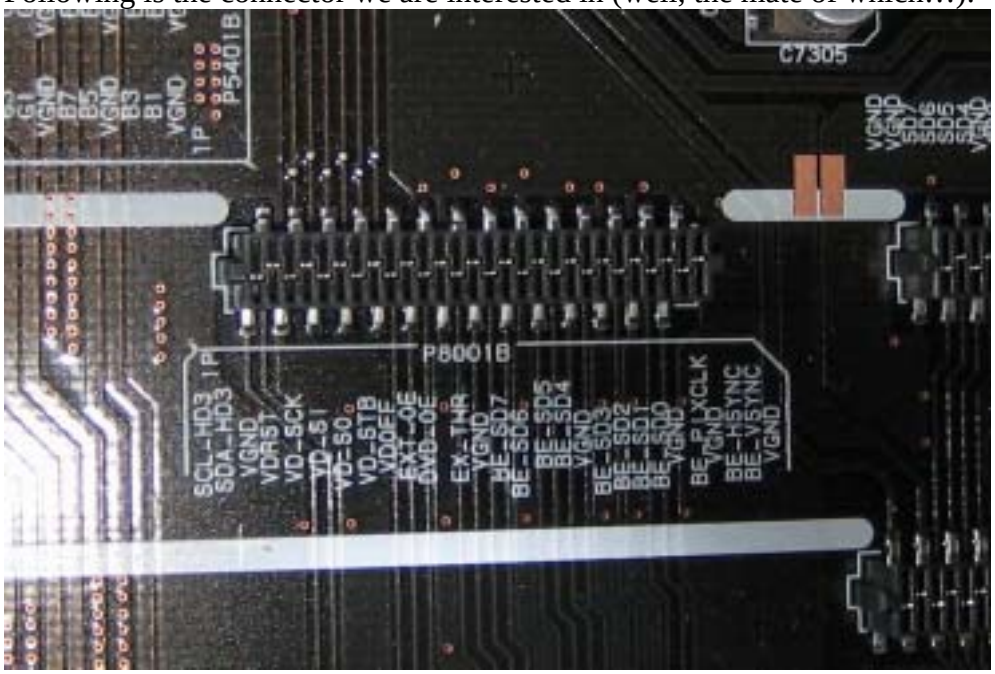


Important: Ground yourself properly (we don't want static electricity to fry our Onkyo, do we?).

Remove the Philips screw holding the HDMI connector to the back panel:

Gently ease the HDMI daughter board (the middle one) out of the unit. Do not remove the serial/iLink board nor the composite video board. Be careful with the fragile circuit board as it has components on both sides.

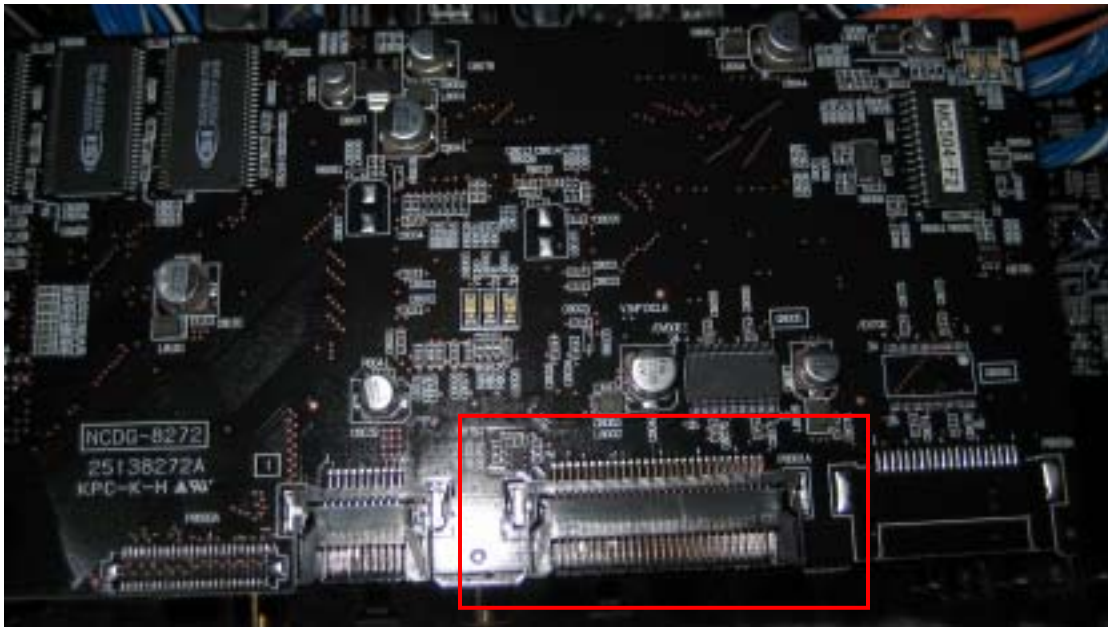
Following is the connector we are interested in (well, the mate of which…):



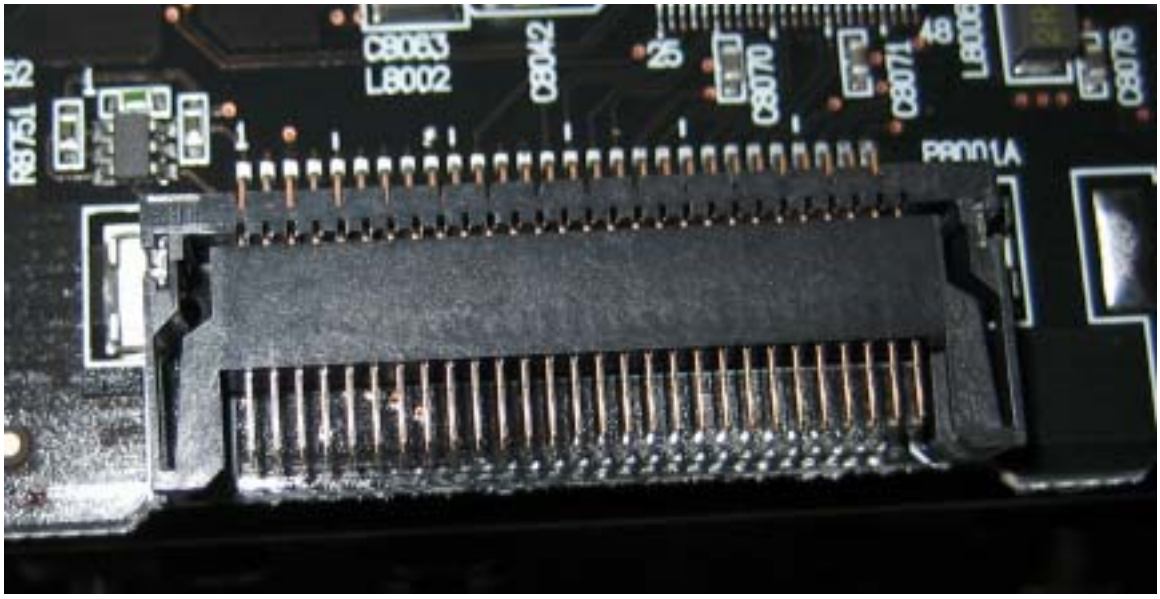
Following is the pin-out of the above connector:

Onkyo DV-SP1000		**SDI Card**		
Pin #	Name	Name	Pin #	Color
Data (P8001A)				
14	BE-SD7	D9	10	Gray
15	BE-SD6	D8	9	Purple
16	BE-SD5	D7	8	Blue
17	BE-SD4	D6	7	Green
18	VGND			
19	BE-SD3	D5	6	Yellow
20	BE-SD2	D4	5	Orange
21	BE-SD1	D3	4	Red
22	BE-SD0	D2	3	Brown
23	VGND	GND	12	Black
24	BE-PLXCLK	CLK	11	White
Power (P8701A)				
4	+5V VDD	+5V		Yellow
3	VGND_D	GND		Green

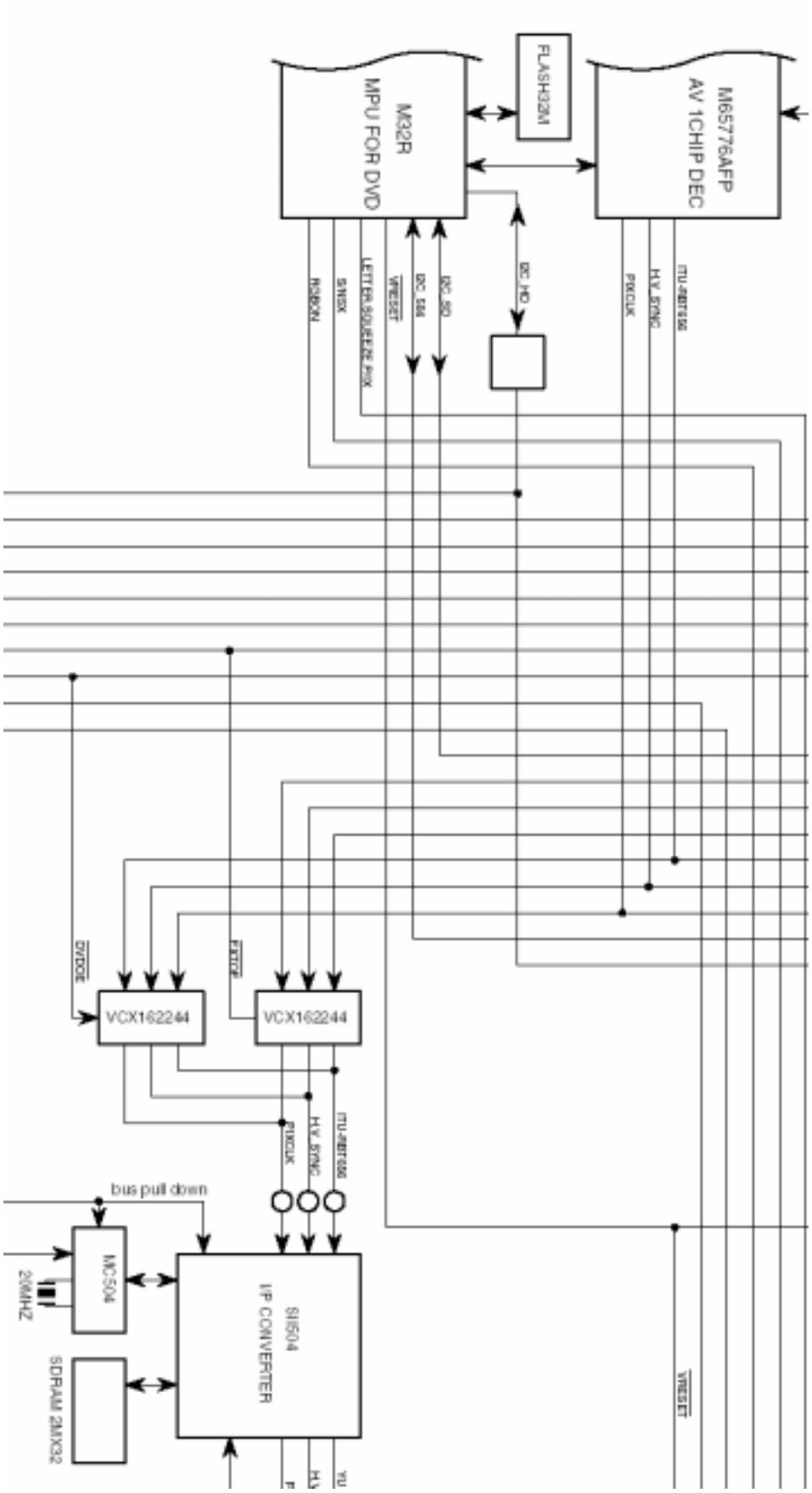
The actual soldering will be on the daughterboard. The connector on the daughterboard has the identifier: P8001A.



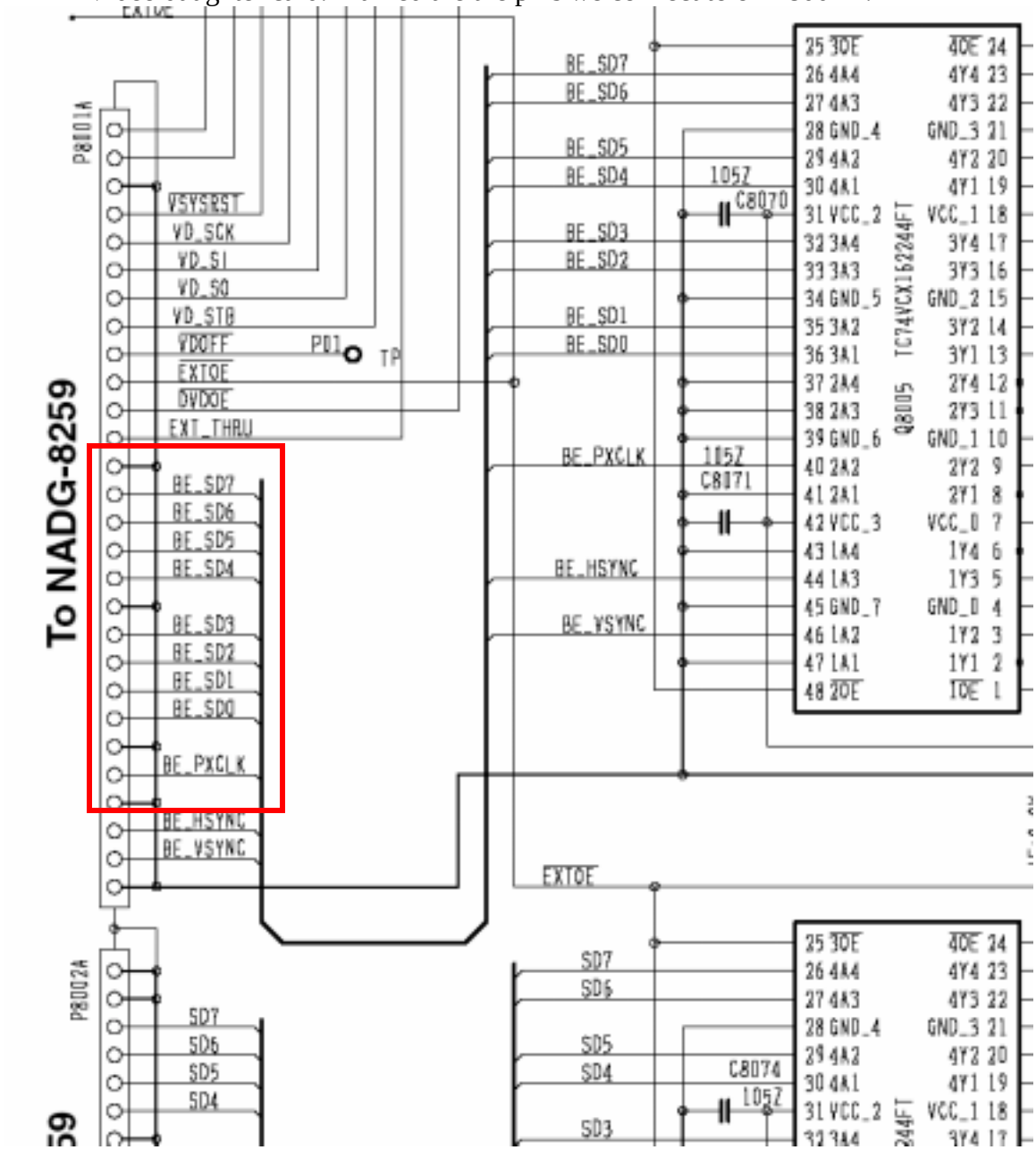
Detail:



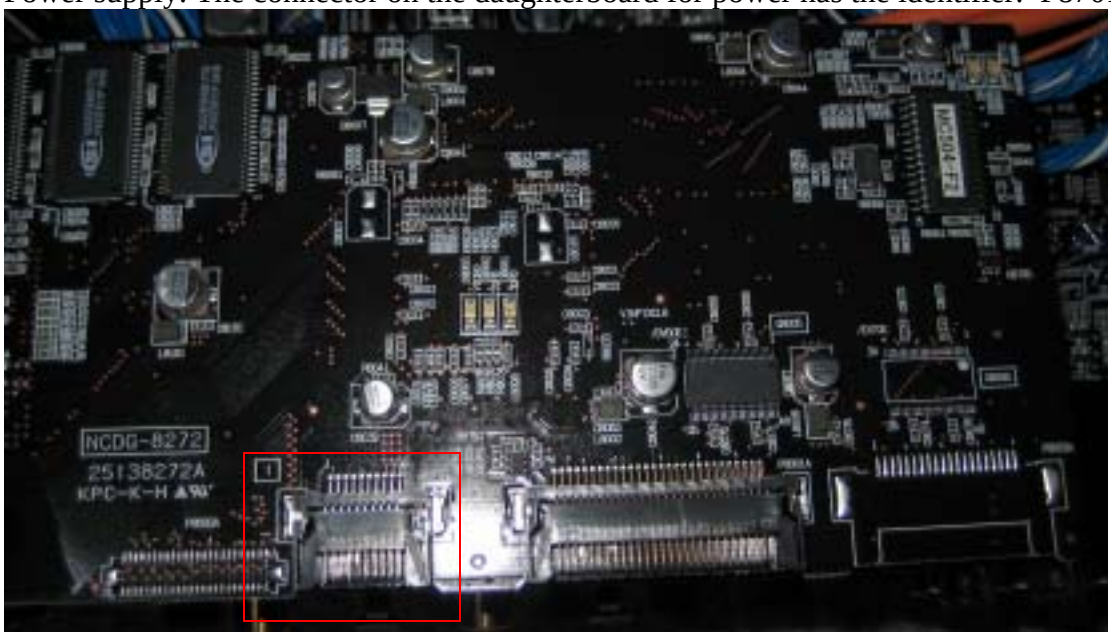
Numbering is from left to right, with white markers each 5 pins.

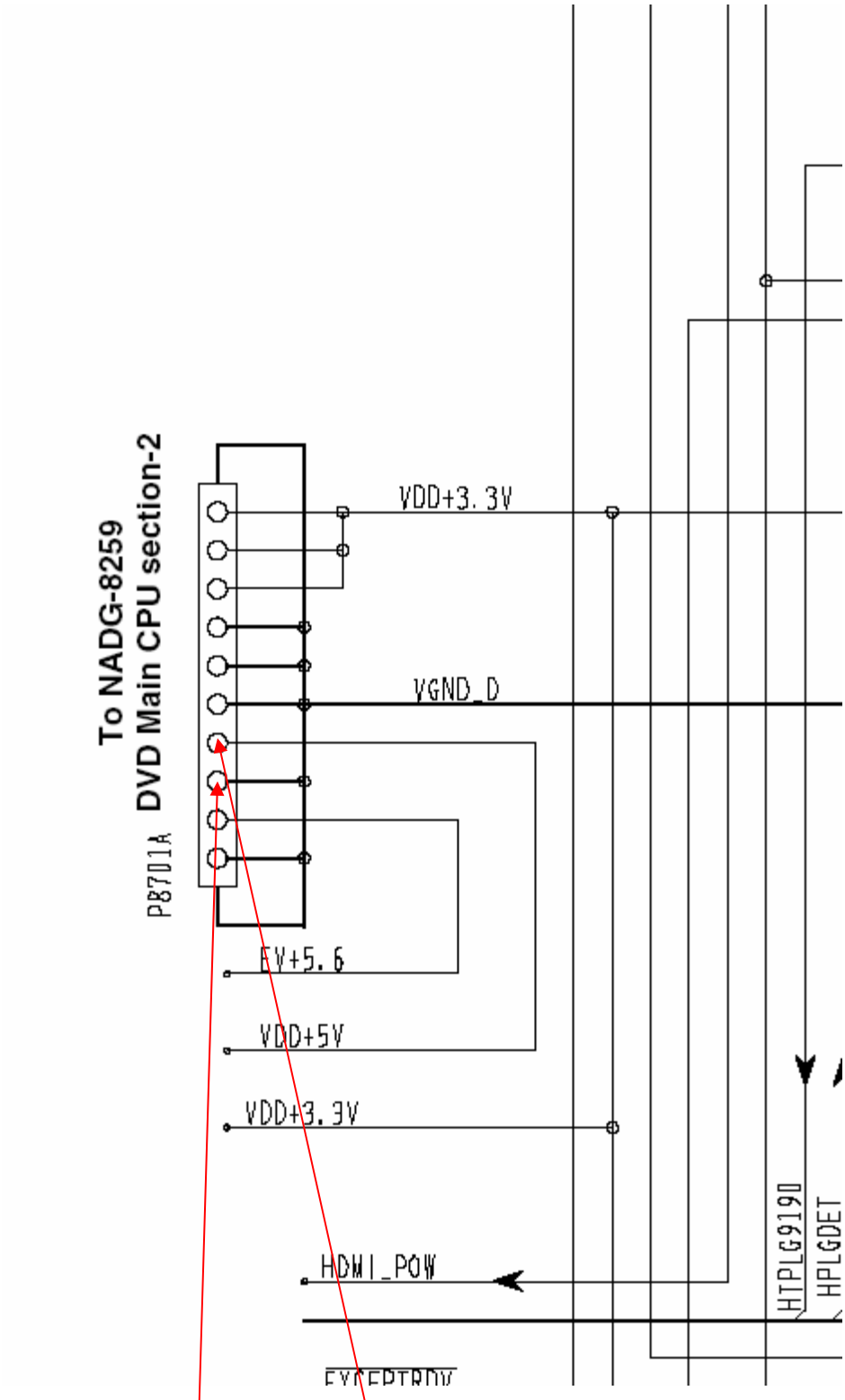

FLASH32M
M32R
MPU FOR DVD
M65776AFP
AV 1CHIP DEC
I2C_HD
I2C_SD
I2C_SDA
VRESET
SYNCK
PIXCLK
H.V_SYNC
ITU-R BT.656
DVDOE
FIXTOP
VCX162244
VCX162244
PIXCLK
H.V_SYNC
ITU-R BT.656
bus pull down
M6504
20MHZ
SDRAM 2MX32
SII504
I/P CONVERTER
VRESET

HDMI Video daughter card. Marked are the pins we connect to on P8001A.



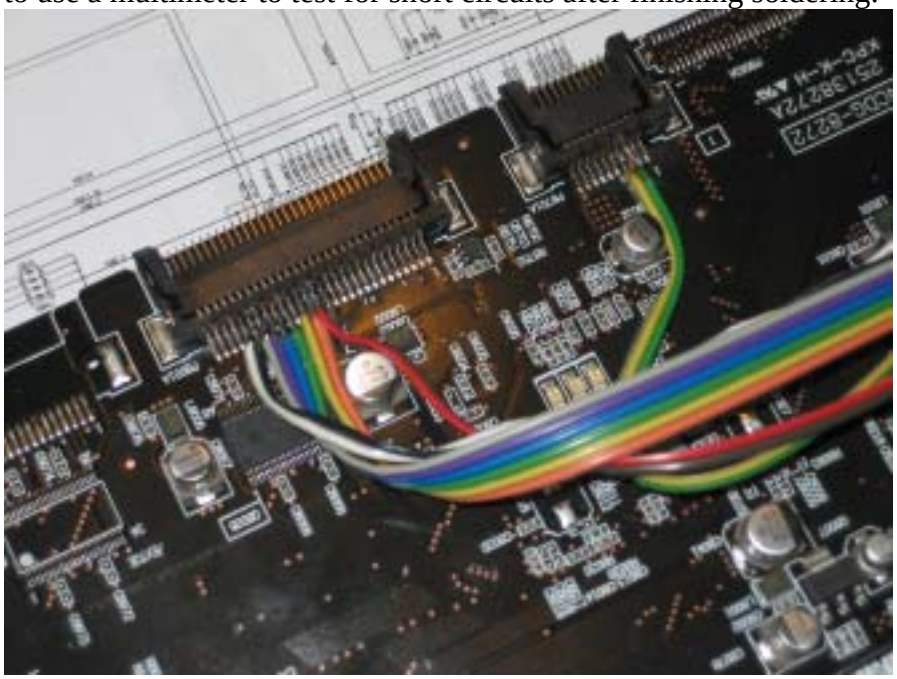
Power supply. The connector on the daughterboard for power has the identifier: P8701A.





Ground (Pin 3) +5 VDC (Pin 4)

The soldered ribbon. The pin centers are very narrow. You will need a fine tipped soldering iron and fine solder to solder the wires to the connector pins. It is recommended to use a multimeter to test for short circuits after finishing soldering.



Punch a hole in the back panel and thread the BNC connector through the hole:

Remember to leave room for the HDMI connector AND the SDI connectors…

Pack up and Enjoy!