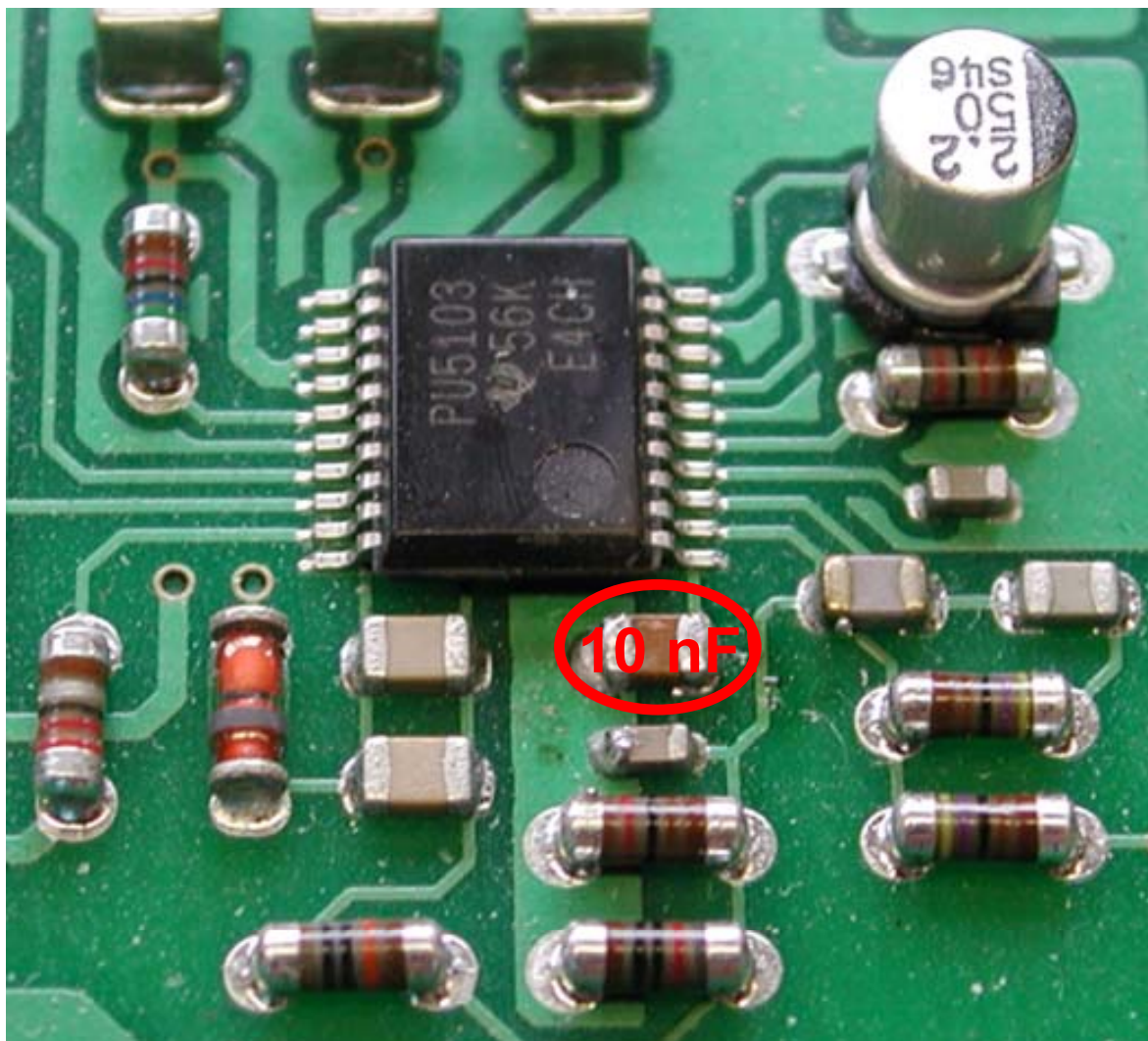
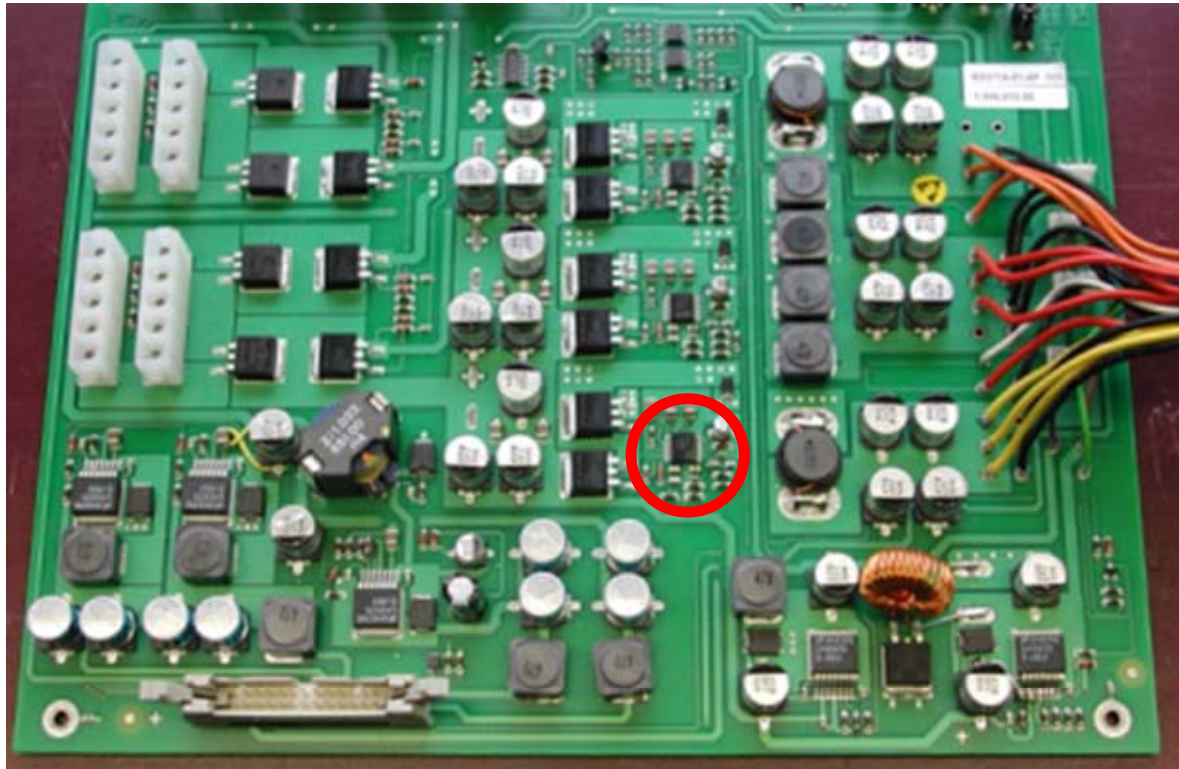
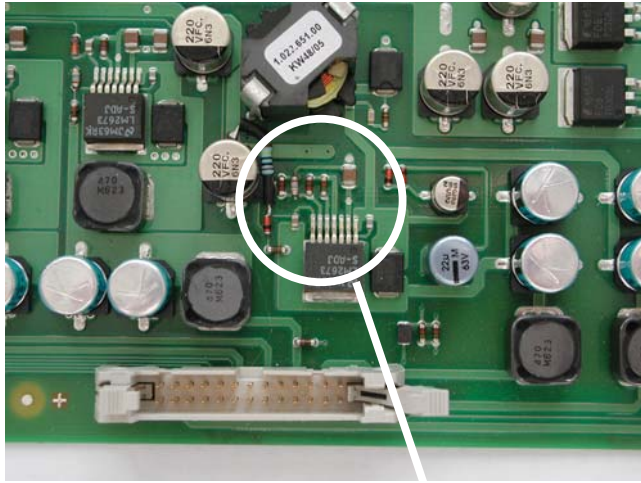
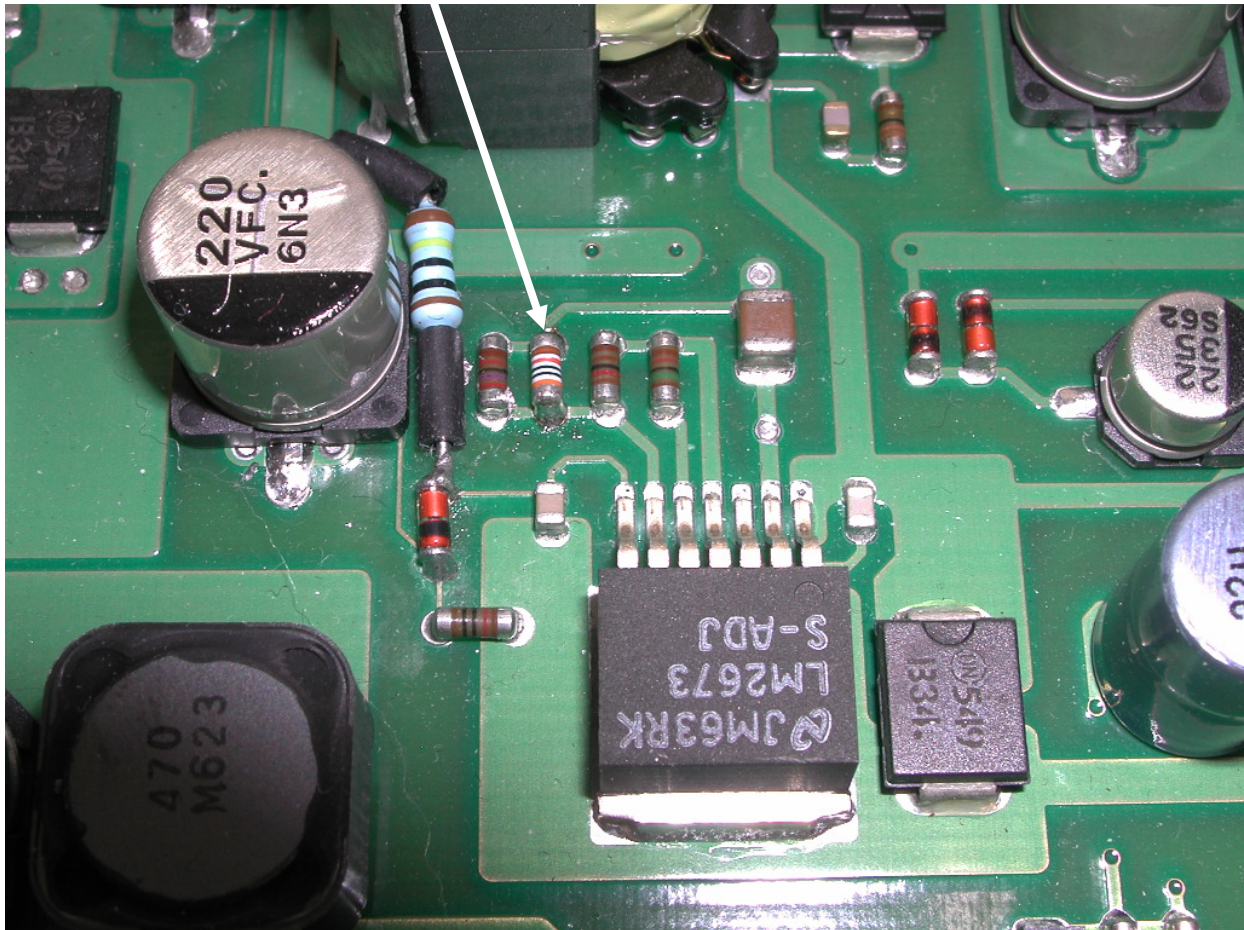


Modification Power Distribution Board to avoid booting problems (symptom: fan doesn't start or ev. screens black)





Replace R157 (27k) with 30 or 33 k



Vista 5 Distribution Board 1.949.810.00

Modification B : 15 V Supply Level (fixes MADI Sync problem)

14.3.2007 KS

New Trackball wiring (USB)

89.20.1176

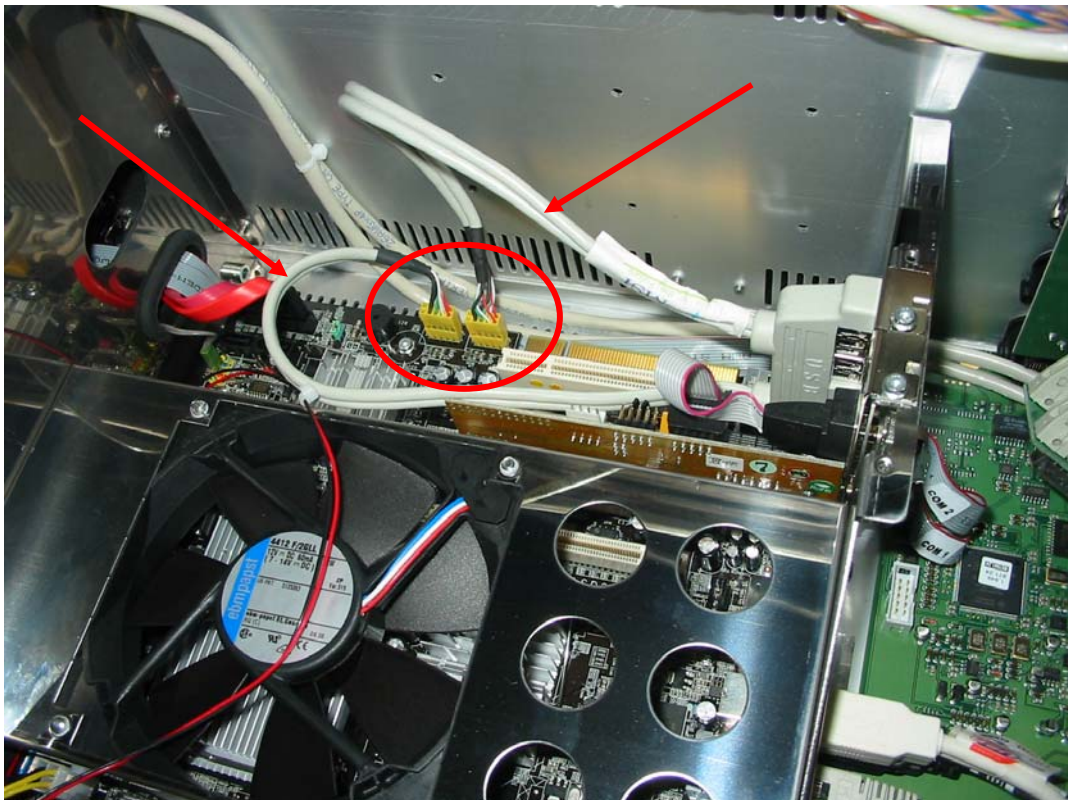
Increased reliability of USB link

Modification :

- Required components :

1 x		USB 2.0 Connector cable
1 x	89.20.1176	Trackball connection cable
2 x	35.05.0311	Cable clamp
2 x	21.53.9354	Screw M3x6

On the motherboard install the USB 2.0 cable, just behind the COM 1 and COM 2 connectors as shown in the picture below:



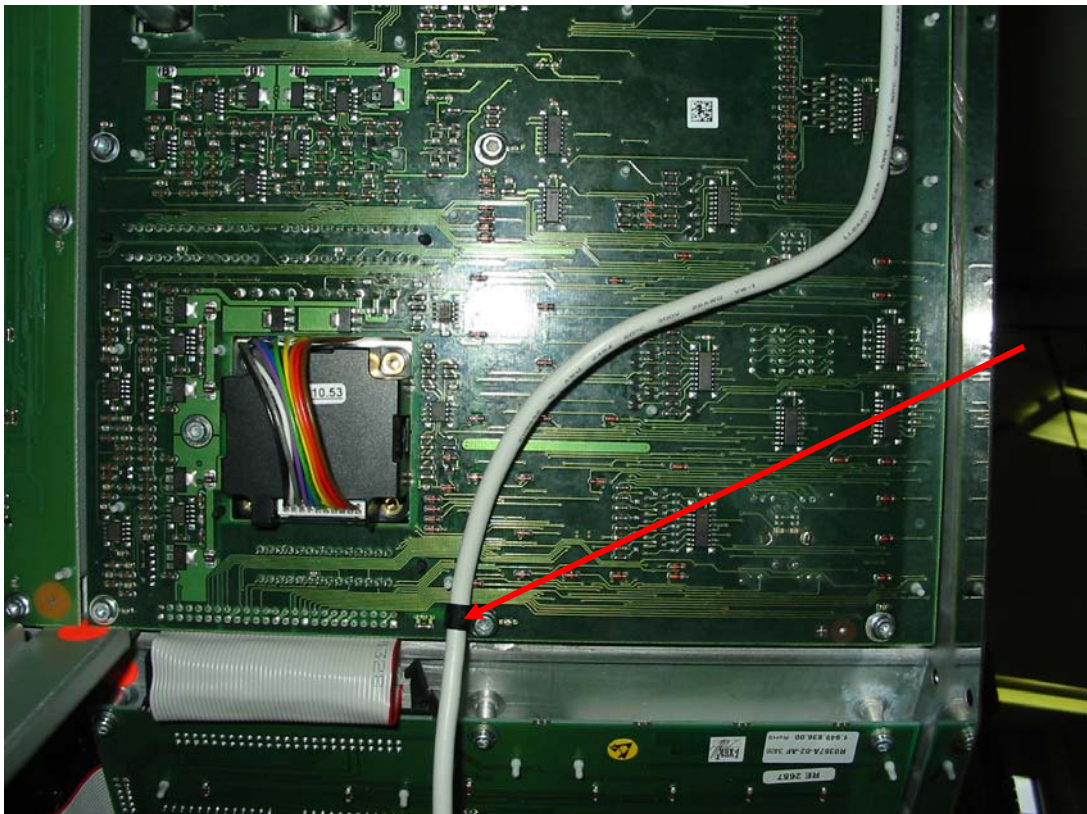
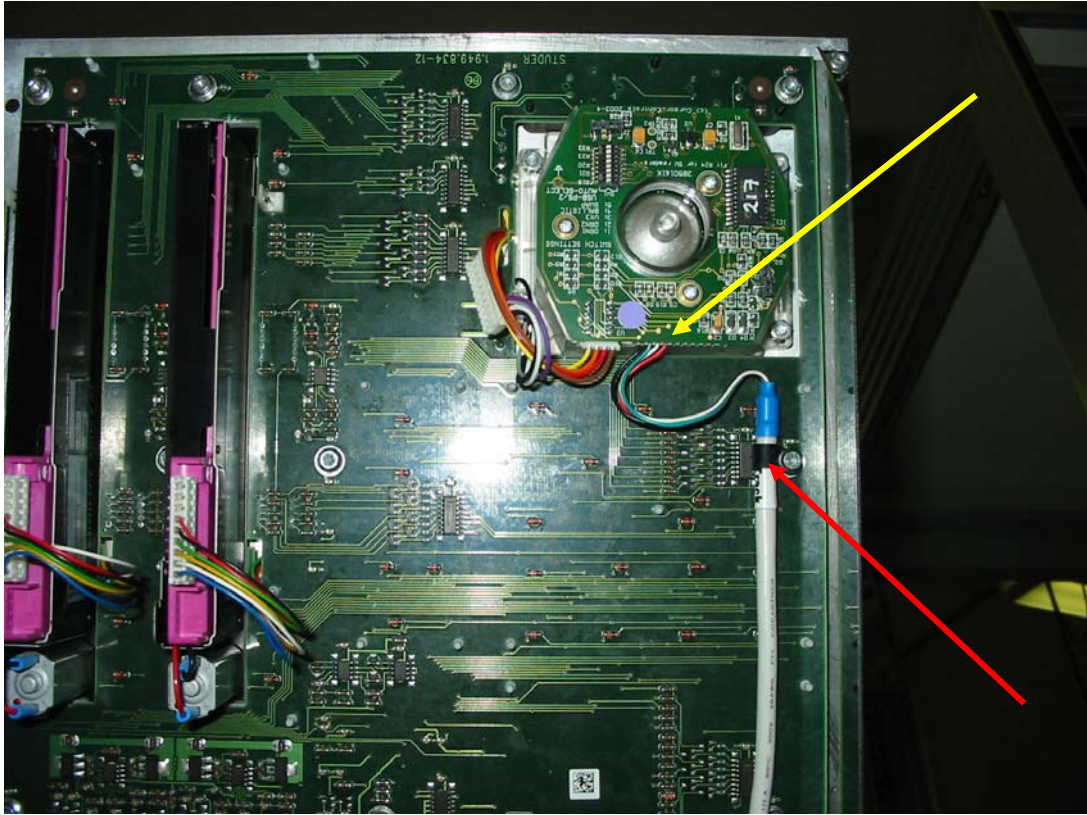
- Insert the lower (yellow) connector into the connector labelled USB 1 socket and the upper one into USB 2 socket, as seen on the picture above

Please note:

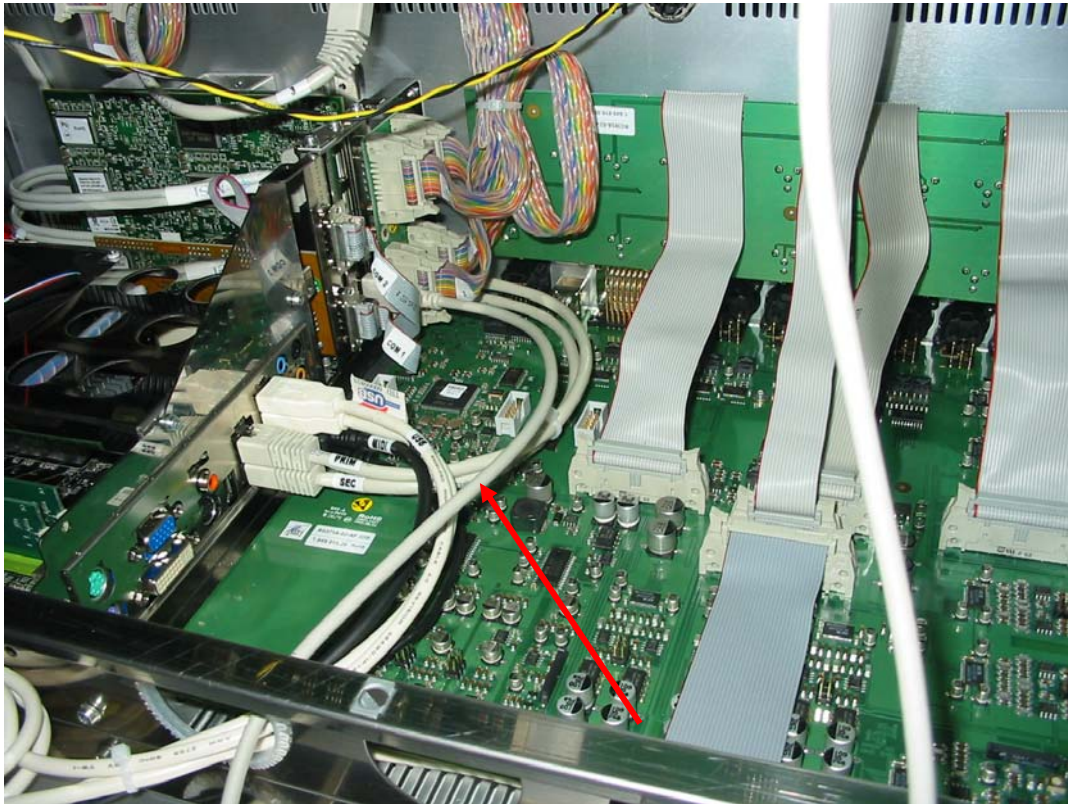
We recommend to remove the Graphic board to have better access to insert the USB 1 and USB 2 connectors.

However, after the Graphic board has been re-inserted make sure to press slightly on the top right hand edge of the PCB while fastening the board on the top PC board installation rail! This shall ensure that the surface of the IC's on the Graphic board make proper mechanical contact to the heat sink surface.

- Remove the connector from the track ball and install the trackball cable 89.20.1176 as shown on the pictures below (yellow arrow):
- Use the cable clamps to fasten the wire as seen in the pictures below (red arrow):
-



- Guide the cable through the edge protected Insert the USB plug into the lowest USB socket as shown in the picture blow . See red arrow



D21m Frame 1.949.405.82 LED/PSII Board with Power Supplies

Problem : The secondary power supply board of the D21m rack (LED/PSII Board 1.949.402.00) has been enhanced to allow additional fan status control and use of standardized fan control cables. As a result the 1st generation power supplies are no longer compatible without additional modifications.

History :

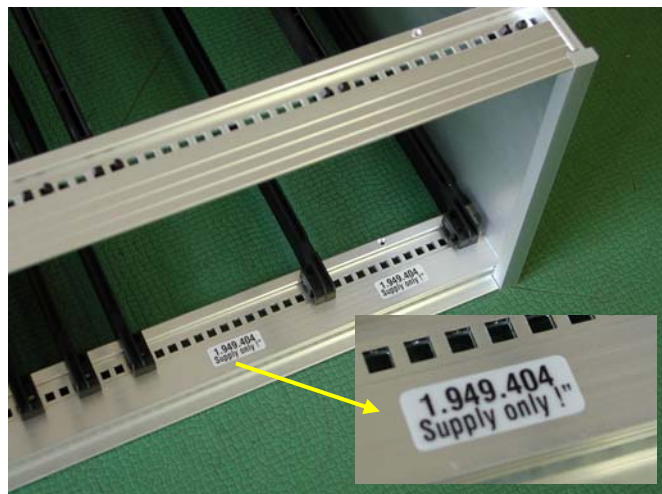
Original Status 27.10.2005	LED/PSII Board 1.949.402.00 with 1.949.403.00 Power Supply LED/PSII Board 1.949.402.00 Rev. "B" for improved 15V stability
13.12.2006	A new power supply 1.949.404.00 was introduced. It has a 15pin D-type status connector instead of the previous 9pin one. It is not compatible with 89.20.1167 15pin fan cables, which are fully 1:1 wired (shortcut / no fan operation), but corresponding systems were shipped with modified cables (pin 13 not wired, grey cable). -> to be fixed with new PS/II board 1.949.402.82, a workaround is possible, see instructions on page 2
21.5.2007	The new board 1.949.402.81 is released. It fixes the above problem and supports additional fan status signals. This 402.81 board is not compatible with the 1 st generation Power Supply 1.949.403.00 (IC21 on the LED/PSII Board can be permanently damaged). -> use the current new power supply 1.949.404.00, or modify the previous 1.949.403 to revision "81" - see instructions on page 2.

The D21m racks are identified with the module number

1.949.405.82 replaced type with
1.949.402.00 LED/PSII board

1.949.405.83 new type with
1.949.402.81 LED/PSII board
with warning label as indicated at right.

Note : When replacing a LED/PSII board, please make sure that the corresponding warning label in the rack is present. Spare/Replacement LED/PSII boards will be shipped with instructions and labels.



Summary of possible combinations

D21m Rack 1.949.405.82
with LED/PSII Board 1.949.402.00

D21m Rack 1.949.405.83
with LED/PSII Board 1.949.402.81 and warning labels

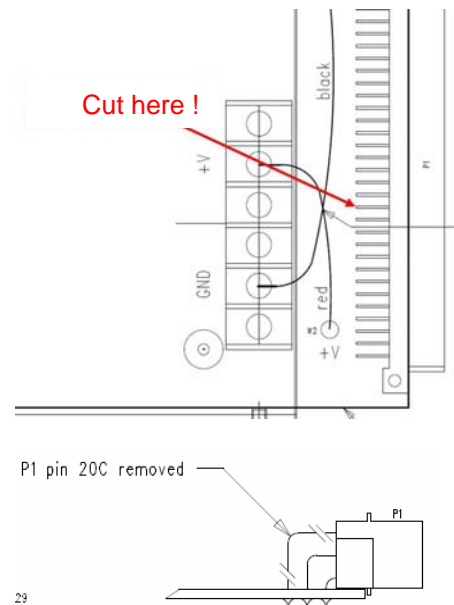
Supply 1.949.403 OK	Supply 1.949.403 with revision "81" only !
Supply 1.949.404 OK with modified fan cable only	Supply 1.949.404 OK

Modification 1.949.403.00 to revision "81"
(making 403 supplies ready for new D21 Racks)

- Cut Pin 20C of connector P1

This modification is required when

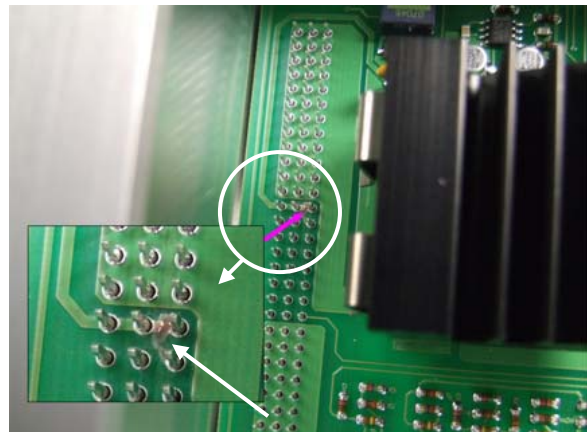
- inserting 403 spares into a new D21m frame
- replacing a LED/PSII Board 1.949.402.00 with an index 81 one.!



Modification 1.949.402.00 LED/PSII Board
for 89.20.1167 cables (15 pin 1:1)

Cut the track as indicated at right.

This modification is not required when using the modified fan cables (without pin 13 wired, Studer made, light grey cable) - all system shipped from Studer were correctly equipped.



Distribution Board

1.949.810.81/82

For the 42 channel Vista 5 a redesign of the distribution board became necessary

This new board with the revision index .81 or .82 will be equipped as well in standard 32 fader Vista5 versions Vista5 desk with serial number **1063 and up** will be equipped with the new Distribution PCB 1.949.810.81, resp. 1.949.810.82

Important:

Be aware, the new board with revision index .81 does not directly replace the earlier version (.00) without any modification!

Here a list of changes, improvements and bug fixes:

- The RS 422-USB converter is now integrated on the distribution board directly. Therefore no longer a need for an additional PCI board with serial port
- Corrected pinout on the COM port (RS 422) Please find the corrected pinout below:

Attention:

When replacing the earlier version (revision index .00), by the new board 1.949.810.81, (resp. 1.949.810.82), make sure to resolder the connection cable of a possibly connected RS 422 device accordingly.

- The desk did not switch off properly depending on the device connected to the COM1 or COM2 port.
- Please note:
- Drivers need to be installed for the RS converters, what will cause an image update!

Replacing the distribution Board 1.949.810.00 with the new version with revision index .81, or .82:

Open left hand bay (Input fader bay)

Unscrew the 2 security 5mm hex bolts of each COM port (COM1 and COM2) at the rear of the desk.

Remove the 4 fastening screws with a 2.5 mm Allenkey

Unplug all the connectors on the board and carefully lift out the Distribution Board

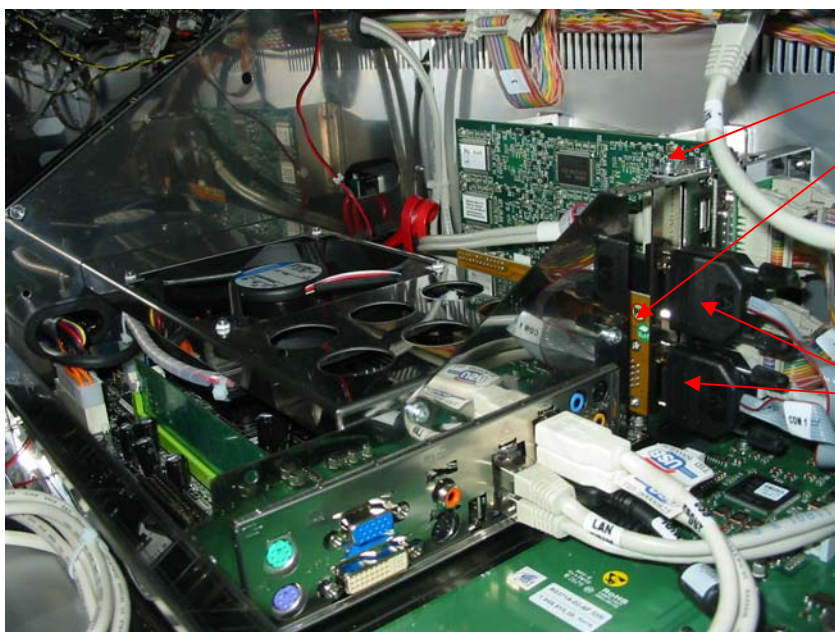
Put in the new Distribution Board 1.949.810.81, resp. 1.949.810.82 and fasten first the 2 COM port connectors at the rear of the desk.

Fasten the PCB with the 4 fastening screws (2.5mm)

Reinsert all the connectors (except the COM1 and COM2 port) as shown on the attached layout

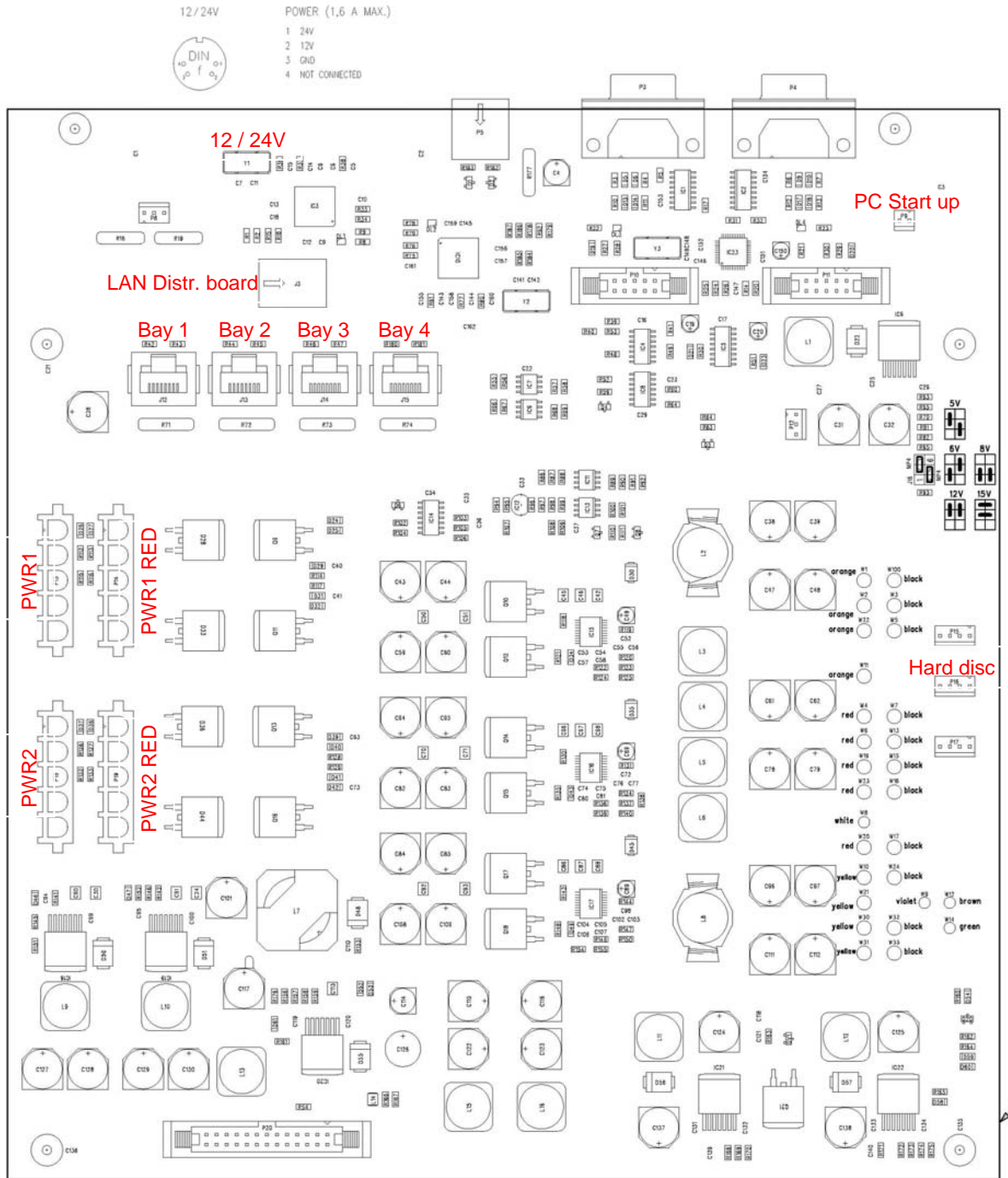
Open the right hand bay as well and remove the COM1 and COM2 cables, see picture below

Remove the 2S Serial RS-232 High Speed PCI card (it is no longer used), see picture below



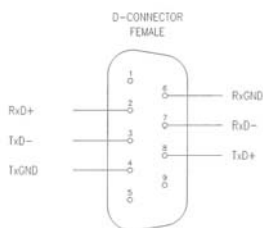
Unscrew fastening screw to remove the RS 232 High Speed PCI card

Remove COM1 and COM2 plugs and wiring

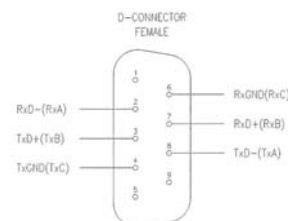


Please note that the pin layout of the RS 422 port (COM1, COM2) has been changed:

Pin Layout for 1.949.810.00:



Pin Layout for 1.949.810.81 and up:



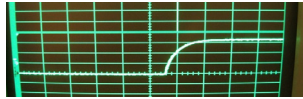
Installing the drivers for the FT2232D Dual USB UART FiFo:

- Make sure the old Serial PCI card is deinstalled before booting the PC
- Make sure the new Distribution Board 1.949.810.81 resp. 1.949.810.82 is properly installed and all the connectors are correctly seated
- By drag and drop install the file called FT2232D_DualUsbUartFifo into the following section:
Local disk drive C:\ under Vista Admintools\Drivers Vista 5
- Power up the system to boot the Windows XP
- Automatically the “new Hardware found” icon will popup at the bottom System tray in the Notification area
- The device Manager asks for a new driver
- Point to the related FIDIBUS.INF in the new installed driver directory
- The “new Hardware found” icon will popup again at the bottom System tray in the Notification area
- Point to the same FIDIBUS.INF in the new installed driver directory again
- After the Device Driver installation is completed, open the Device Manager as follows:
Right hand mouse click to My Computer → press Manage → and then Device Manager
Expand the file Ports (COM & LPT) (mouse click to +)
Open USB Serial Port (COM 3)
Right hand mouse clicks to Properties and open there the flag port settings
Press Advantced and change Listbox COM3 to COM2 (in use). Ignore warning dialog (... Device already in use
- Open USB Serial port (COM 4)
Right hand mouse clicks to Properties and open there the flag port settings
Press Advantced and change Listbox COM4 to COM1 (in use). Ignore warning dialog (... Device already in use
- Close and reopen the Device Manager to verify the new settings:
 - Ports(COM & LTP)
 - USB Serial Port (COM1)
 - USB Serial Port (COM2)

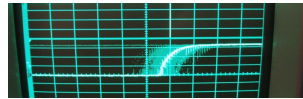
Test correct function with a loopback-connector and a Terminal Program for COM1 and COM2

D21m MADI HD Card 1.949.411.23 / 1.949.413.22

Problem : When more than 48 different audio signals are present on the MADI input, there was an increased jitter of the FS SYS signal measured on some cards. This caused the D21m stagebox not to work properly anymore (clicks on output channels)



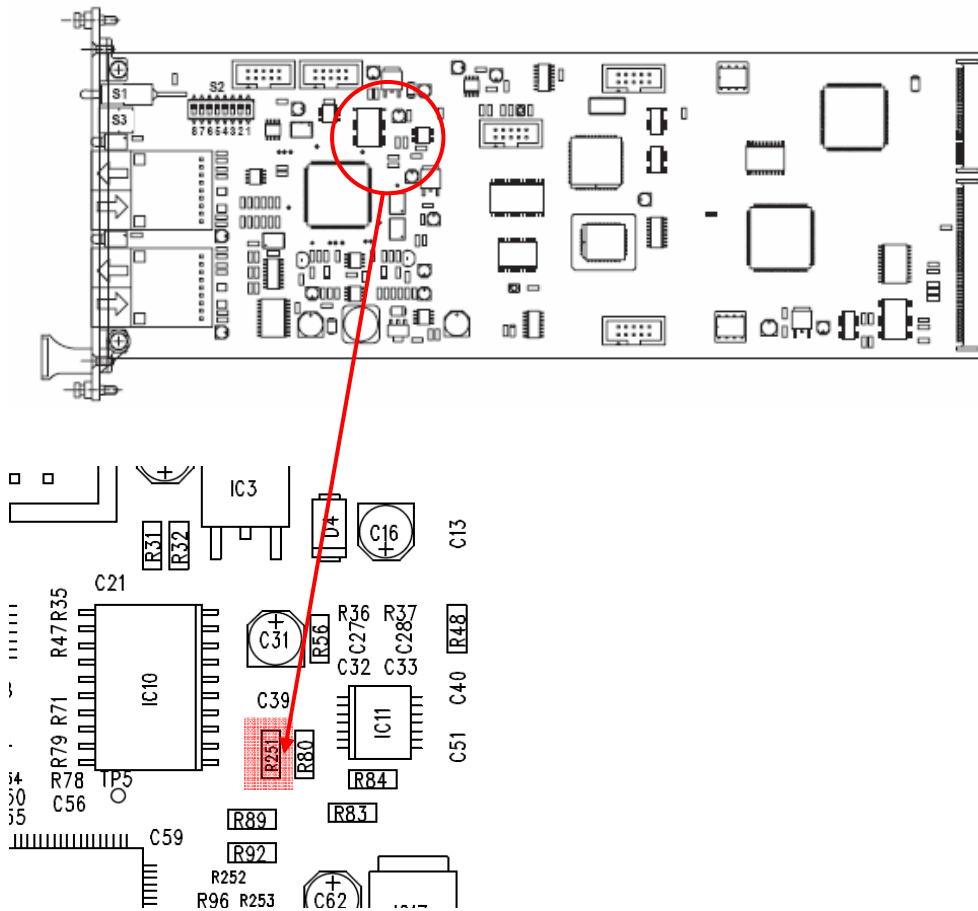
normal jitter (< 6ns)



increased jitter (>100 nsec)

Solution : The problem is fixed with an improved layout in the successor boards 1.949.411.24 (multimode) and 1.949.413.23 (singlemode)

Current boards which show the problem can be fixed by replacing R251 (33 ohms, Minimelf type) with 82 ohms (Studer order no 57.60.1820).



D21m Frame 1.949.405 - MicLine Cards and Grounding

Problem : Correctly wired D21m interfaces use balanced inputs and outputs, and there is no low impedance connection between D21m chassis and signal ground. With correctly earthed equipment, an audio cable with the balanced signals and shielding is appropriate.

When using Mic/line cards with phantom power in a correctly wired system, the microphone is isolated to the D21m CHASSIS. The circuit inside the microphone takes its supply from Pins 2 and 3 (+ and -) for the positive reference and Pin 1 (GND) for the negative reference.

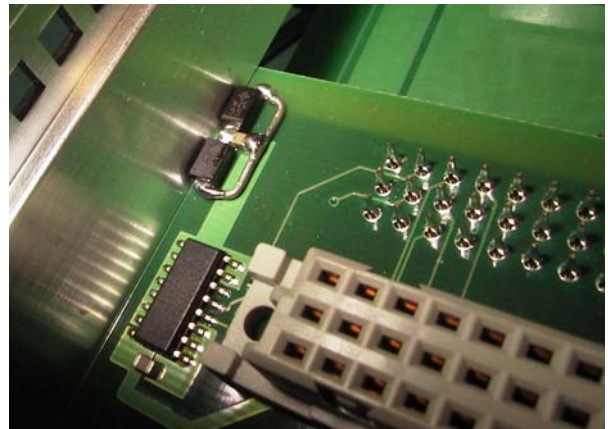
If a patch bay is implemented, GND (pin 1 on XLR connector) of each microphone input should be connected to its corresponding GND pin but not to CHASSIS. If CHASSIS instead of GND is used as negative reference for a microphone, it can occur that the GND net of the D21m is pulled towards -48V. This causes the HD-Link receivers on the HD card not to work correctly or to be damaged, depending on the type and number of microphones connected.

Solution : To protect the HD-Link inputs, antiparallel diodes between GND and CHASSIS will be implemented on future versions of the D21m backplane.

For installed systems which might be affected (D21m Hub with microphone cards, using phantom power and patch bays), a modification is recommended. A quick solution with an external connector is available for these systems.

Board Modification

Solder antiparallel diodes
S1B (50.60.8003)
over C15 (a 15mm wire is optimal).



Connector quick-fix:

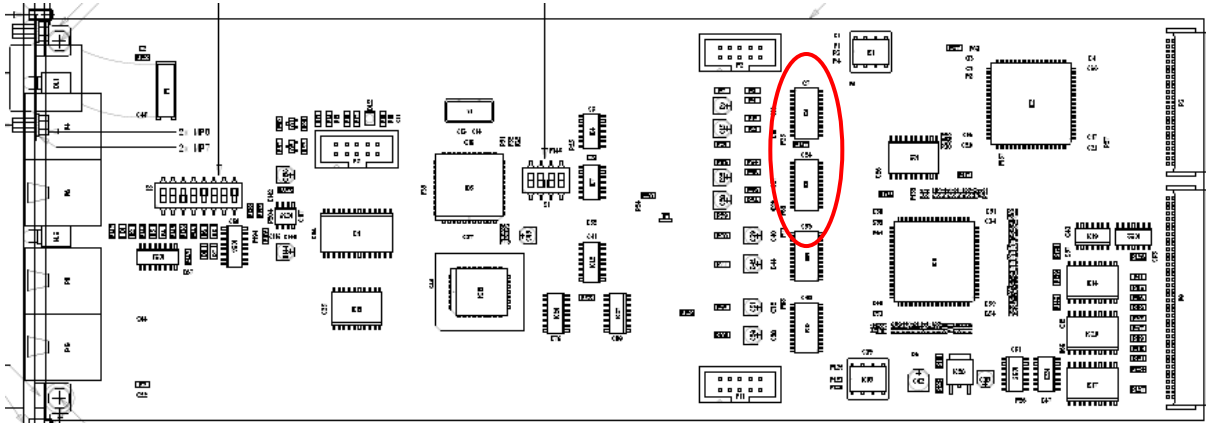
In cases where the frame cannot easily be removed, the diodes can be introduced through a connector which is plugged into the fan/status connector at one of the power supplies :

Use antiparallel diodes 1N4001
(50.04.0122) to connect the
connector shield :
in DB15 variants 1.949.404.00
with Pins 3 and 7 (see at right)

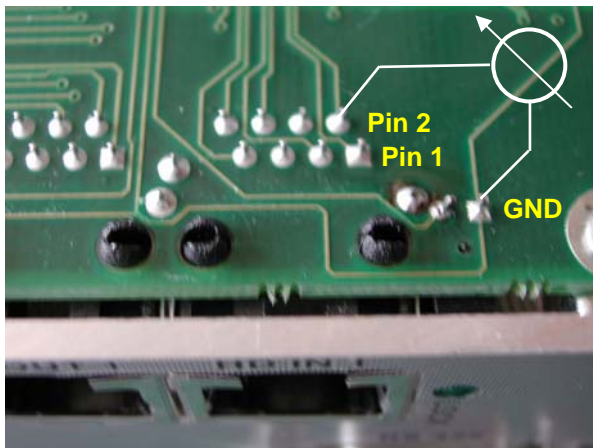
or in DB9 variants 1.949.403.00.
with Pin 8



Analysis : If card inputs of a HD card 1.949.415 are damaged, it's typically the input stage of the LVDS receiver DS90CR216 (IC8, IC3 for IN1, IN2). As a result the input does no longer lock to an incoming signal (Lock LED stays dark), or the HD link becomes unreliable (see measurement below for verification)



Defect receivers typically show different input impedance when measured to ground reference. Good inputs have high impedance (MOhm range), defect ones show often < 1kOhm (see example with measurement points for input 0 below) :



RJ45 connector layout :
 input 0 pin 1,2
 input 1 pin 3,6
 input 2 pin 7,8
 rcv clock pin 4.5

D21m LED/PSII Board

1.949.402.00

Depending on transformer and load of the supply, the $\pm 15V$ supply may become unstable (noise on analog I/O boards). The following revision "B" modification fixes the problem (in production since October 2005).

- The modification consists of
- C88 replace 1nF with 100pF (59.60.2349)
 - R129 replace 100k with 10k (57.60.1103)
 - R141 replace 2k with 300 Ohms (57.60.1301)
 - R142 replace 10k with 1k5 (57.60.1152)
- connect feedback signal to other side of L6 (to + of C46), see picture below

