# D21 Mic/Line In Card

## 1.949.427.00/81

The input of The Mic/Line In Card may be damaged when phantom power is switched on and the input signal is short circuited. This may e.g. happen when using patch bays with connectors causing a temporary shout circuit during the plugging of the connector (was reported from bantam connectors).

A first modification (Index 00 Rev "B" and Index 81) improved the problem, a later second modification (Index 00 Rev "C" and Index 81 Rev "A") fixes a resulting problem with clicks at a particular gain position.

Studer ships Index 00 rev "B" cards since 10.10.2005 Index 00 rev "C" and Index 81 rev "A" cards since 30.1.2006.

In applications where the phantom conditions can't be avoided, the index 00 boards should be modified. Please contact the Studer Customer Support in such a case, for arranging a modification.



**Modification of 1.949.427.00** (00A -> 00B -> 00C)

There are 2 diodes to be replaced for each of the 4 inputs (see D10, D11 for CH1 at left).

Modification of 1.949.427.81 (81 -> 81A)

All 4 diodes of an input are replaced (see D7/10 and D8/11 for CH1 at left)



1.949.427.00 Bottom/Front

#### Version 1.949.427.00 Revision B/C

Upgrade with 8 diodes / board Rev. "B" with new diodes SS14 Rev. "C" with new diodes S1B (Order No 50.60.8003)





Rev B/C

original 4448 diodes

**Please note** : The new diodes are larger and need to be soldered to the 4448 diode next to it.



1.949.427.81 Bottom/Front

# Vista 8 Keyboard 1.949.155

In a few Vista 8 systems, illegal characters or sequences were created when fast typing in names an numbers. The problem source is the keyboard layout of the illumination, which can lead to crosstalk to the keyboard matrix. The new index 82 keyboard with new layout fixed the problem.

The workaround at the right (Revision A cable) will fix it for the older index 00/81 boards  $\rightarrow$  cutting the illumination supply on cable pins 5 and 6



### **Keyboard Replacement**

The Vista 8 keyboard 1.949.155 is mounted in a drawer and is attached to the control bay with a flat ribbon cable 1.023.102.99. If the keyboard needs to be replaced, the drawer needs to be unmounted as follows.

- 1. Switch off the desk and open the Control Bay above the keyboard drawer (Fig 1)
- Disconnect the flat ribbon cable from the Controller Board, remove the cable attachment (1a) and the screws (1b) which fix the drawer to the desk chassis. Take care to hold the drawer !
- 3. Place the drawer onto a flat surface (Fig 2) and remove the keyboard cover with the board with the top and bottom screws (2a)
- 4. and finally unmount the keyboard from the cover (Fig 3a).



Fig.1 Top view with open bay



Fig.3 Keyboard mounted on cover



Fig.2 Keyboard drawer

5. Proceed in reverse order after replacing / repairing the keyboard. Take care that the flat ribbon cable is properly laid into the drawer.

**Please note** : there were a few drawer bottom frames with mirrored cutouts, so that the ribbon cable is moving over the edges (fig 2c). It is recommended to attach an isolation sheet on the bottom to protect the cable. Suitable sheets are available from Studer product support on request.

## **DSP Core Configuration**

The D950 Dsp Core is currently shipped with a combination of the following boards :

- PEAES Board 1.950.605.26
- PE21 1.950.606.22
- PE Board 1.950.610.26
- Memnet Board 1.950.620.26 / 1.950.621.20
- Madi Board 1.950.615.27 / 1.950.616.20

## **Card Configuration**

The following card configuration is recommended, from left to right:

PE	in slot 1, only for PE card in full core configurations, else empty				
Memnet :	in slot 2				
MADI	following Memnet card, if possible in every second slot for better cooling				
PE	following MADI cards				
PEAES, PE21	following PE cards				

Example :



## **Compatibility Issues**

- The new Madi and Memnet Boards 1.950.616 / 621 require D950 V3.0 software revision and configurations built with mn020522.exe.
   If used with V2.5 at least the Mn020522 library has to be used for building configurations. Please note that in this situation the boardtype of 1.950.616 / 621 will not be displayed correctly in the surveyor..
- PE21 boards require D950 V3.1 software revision (configurations built with mn020809.exe), as well as Boot Firmware 1.950.930.26 Index 26 Boot Firmware is also shipped on all other boards since January 2003 for manufacturing reasons, but there is no need to upgrade boards with index 25, as they are compatible.
- PE and PEAES cards revision 25 and 26 are equivalent in specifications the only difference is a modification for an IC which had to be replaced with a new version.

## **DSP Board Revisions**

PEAES Boar	d 1.950.605.26					
Index 24	minimum revision since Dec 1998	with Boot Firmware 1.950.930.24 CC Firmware 1.950.922.22				
Index 25	Jan 2000 - Hardware modification : pulldown resistors for address switches					
Index 26	Nov 2002 - Layout redesign for compatibility with partice	ular new IC revisions with Boot Firmware 1.950.930.25				
PE21	1.950.606.22					
Index 20	initial release					
Index 21	Nov 2002 - general improvements and redesigned boar	d with Boot Firmware 1.950.930.26				
Index 22	Jan 2005 - Layout redesign for reliable 96kHz operation in large systems					
PE Board	1.950.610.26					
Index 24	minimum revision since Dec 1998	with Boot Firmware 1.950.930.24 CC Firmware 1.950.922.22				
Index 25	Jan 2000 - Hardware modification : pulldown resistors for address switches					
Index 26	Nov 2002 - Layout redesign for compatibility with particular new IC revisions with Boot Firmware 1.950.930.25					
Madi Board	1.950.615.27 / 1.950.616.20					
Index 24	minimum revision since Dec 1998	with Boot Firmware 1.950.930.24				
Index 25	Jul 1999 - fixes ,MADI shifting bugʻ, allows sync configu	rations up to 300m with MADI A Firmware 1.950.928.22 with MADI B Firmware 1.950.929.22				
Index 26 Index 26 A	Jan 2000 - Hardware modification : pulldown resistors for address switches Mar 2000 - Bug Fix (muted MADI out) with R33 100 -> 33 ohms					
Index 27	Apr 2001 - Improved MADI Input reliability	with MADI A Firmware 1.950.928.23 with MADI B Firmware 1.950.929.23				
1.950.616.20	Layout redesigned, improved reliabilty in large systems	3				

Memnet Boa	rd 1.950.620.26 / 1.950.621.20		
Index 24	minimum revision since Dec 1998	with Boot Firmware 1.950.930.24	
Index 25	Jul 1999 - Improved reset and resync	with LINK B Firmware 1.950.926.22	
Index 26 Jan 2000 - Hardware modification : pulldown resistors for address switches			
1.950.621.20	Layout redesigned, improved reliabilty in large sy Supply Powerfail support	stems, 96kHz proof, incl. Redundancy	

#### Core Backplane 1.950.650.00

- When using more than 1..2 PE21 cards in a DSP Core, the backplane needs to be modified to 1.950.650.00 Rev A (shipped since Jun 2003) : *R* 624 and *R* 625 change from 330R to 220R *R* 626 and *R* 627 (470R) are removed
- A revision "B" modification (Sept 2004) improves reliability in fully equipped DSP cores by reducing pulldown resistors. Backplane and DSP Rack 1.950.692.81 are arked with a revision "B" label.



### PE21 Board 1.950.606.22 Operation Mode Jumpers

The PE21 DSP card can be configured to work with 48kHz sampling rate only, or allow 48/96 kHz operation. The mode is set with the indicated jumper JP4 :



### MADI Board 1.950.616.20 Standard Jumper Settings

There are no user settings for operation, all settings are fixed as shown below. The position of JP2 is not important in standard operation.



# BIOS Settings for PC Type 2 - ASUS P4P800 SE

Please note that after a full reset, some pages might look different until the RAID has been configured in screen 2. Store the settings, leave the BIOS and re-enter it to complete the final BIOS settings as shown on screen 1 - 20.

	BIOS SETUP UTILITY					
	lain Advanced Power Boot Exit		i a in			
	System Time [11:04:54] System Date [Mon 05/15/2006] Legacy Diskette A [Disabled] Language [English] > Primary IDE Master : [Not Detected] > Secondary IDE Master : [Not Detected] > Secondary IDE Slave : [Not Detected] > DE Configuration	Use (ENTER), (TAB) or (SMIFT-TAB) to select a field. Use (*) or (-) to configure system Time.	IDE Configuration     Set Serial ATA.       Onboard IDE Operate Mode     IEnhanced Model       Enhanced Mode Support On     IP-ATA+S-ATAI       Configure S-ATA as RAID     IYesl       Serial-ATA BOUTROM     Enabledl       IDE Detect Time Out (Sec)     [10]			
	▶ System Information	<ul> <li>↔ Select Screen</li> <li>11 Select Item</li> <li>← Change Field</li> <li>Tab Select Field</li> <li>Field General Help</li> <li>Fi0 Save and Exit</li> <li>ESC Exit</li> </ul>	↔ Select Screen 11 Select Item ↔ Change Option F1 General Help F10 Save and Exit ESC Exit			
1	v2.51 (C)Copyright 1985-2002, American Meg	atrends, Inc.	2 v2.51 (C)Copyright 1985-2002, American Megatrends, Inc.			
	Main		BLUS SELOF OTLETY Main <mark>Advanced</mark> Ромет Boot Exit			
	AMIBIOS         Uersion : 1008.015         Build Date: 02/17/05         Processor         Type : Intel(R) Pentium(R) M processor 1.736H         Speed : 1732MHz         Count : 1         Sustem Memory		<ul> <li>JumperFree Configuration</li> <li>CPU Configuration</li> <li>Chipset</li> <li>Duboard Devices Configuration</li> <li>PCIPnP</li> <li>USB Configuration</li> <li>Instant Music Configuration</li> </ul>			
	Size : 512MB	<ul> <li>↔ Select Screen</li> <li>14 Select Item</li> <li>F1 General Help</li> <li>F10 Saue and Exit</li> <li>ESC Exit</li> </ul>	<ul> <li>↔ Select Screen</li> <li>↑↓ Select Item</li> <li>Enter Go to Sub Screen</li> <li>F1 General Help</li> <li>F10 Save and Exit</li> <li>ESC Exit</li> </ul>			
3	v2.51 (C)Copyright 1985-2002, American Meg	atrends, Inc.	4 v2.51 (C) Copyright 1985-2002, American Megatrends, Inc.			
	BLUS SETUP UTILITY		BIUS SELUP UTILITY Advanced			
	Configure System Frequency/Unitage	Select the target CPU	Configure advanced CPU settings This should be enabled			
	AI Overclock Tuner [Standard]	frequency, and the relevant parameters will be auto-adjusted. Frequencies higher	Configure advance         Cru settings         Intro should be enabled           Intro should be enabled         in order to boot         in order to boot           Manufacturer:Intel         legacy OSes unable to         support CPUs with           Frequency         :1732/Hz         extended CPUID			
		the commanditutue recommends are not guaranteed to be stable. If the system becomes unstable, return to the default. ↔ Select Screen t1 Select Item ← Change Option F1 General Help F10 Save and Exit ESC Exit	Cache L1     : 64 KB       Cache L2     : 2048 KB       Cache L3     : 0 KB       Ratio Actual Value     : 13       Max CPUID Value Limit:     Disabled1       Execute Disable Function     Disabled1       CPU Internal Thermal Control     IAutol       F10     Saue and Exit       ESC     Exit			
5	v2.51 (C)Copyright 1985-2002, American Meg	atrends, Inc.	6 v2.51 (C)Copyright 1985-2002, American Megatrends, Inc.			



### **STUDER** Vista Service Note

#### SN 2006-04a

	BIOS SETUP UTILITY Power			BIOS SETUP UTILITY Main Advanced Power Boot Exit			
	Hardware Monitor		CPU Temperature		Boot Settings		Specifies the Boot
		[43°C/109°F] [26°C/78.5°F] [N/A]			<ul> <li>Boot Device Priority</li> <li>Hard Disk Drives</li> </ul>		Device Priority sequence.
	Q-Fan Control	[Disabled]			<ul> <li>Boot Settings Configuration</li> <li>Security</li> </ul>		
	<b>CPU Fan Speed</b> Chassis Fan Speed Power Fan Speed	<mark>[1278RPM]</mark> [N/A] [N/A]					
	VCORE Voltage 3.3V Voltage 5V Voltage 12V Voltage	[ 1.2960] [ 3.3280] [ 5.0260] [12.2810]	<ul> <li>↔ Select Screen</li> <li>14 Select Iten</li> <li>← Change Option</li> <li>F1 General Help</li> <li>F10 Save and Exit</li> <li>ESC Exit</li> </ul>				↔ Select Screen 14 Select Item Enter Go to Sub Screen F1 General Help F10 Save and Exit ESC Exit
15	v2.51 (C)Copyrig	nt 1985-2002, American Meg	atrends, Inc.	16	v2.51 (C)Copyright 1985-2002, Amer	ican Mega	atrends, Inc.
		BIOS SETUP UTILITY			BIUS SETUP UTIL	llr	
	Boot Device Priority		Specifies the boot		Boot Settings Configuration	-	Disabled: Displays
	1st Boot Device 2nd Boot Device	IPS-PCRW1200) Intel Vista_RAIDI	sequence from the available devices. A device enclosed in parenthesis has been disabled in the corresponding type menu. ↔ Select Screen Ti Select Iten +- Change Option PI General Help F10 Save and Exit ESC Exit		Quick BootIEnabled]Full Screen LogoIDisabled]Addin ROM Display ModeFforce BIOSJBootup Nun-LockIOn]PS/2 Mouse SupportFAutolTypematic RateIFast]Boot To OS/2INo]Wait For 'F1' IF ErrorIEnabled]Hit 'DEL' Message DisplayIEnabled]Interrupt 19 CaptureDisabled]		Hormat POSI messages. Enabled: Displays DEM Logo instead of POST messages. ↔ Select Screen 14 Select Item +- Change Option F1 General Help F10 Save and Exit ESC Exit
17	7 u2.51 (C)Copyright 1905-2002, American Megatrends, Inc. BIOS SETUP UTILITY		18	8 v2.51 (C)Copyright 1985-2002, American Megatrends, Inc. BIOS SETUP UTILITY			
		Boot			Main Advanced Power Boot <mark>Exit</mark>		
	Supervisor Password :Not In User Password :Not In Change Supervisor Password Boot Sector Virus Protection	nstalled Istalled m (Disabled)	<enter> to change password. <enter> again to disable password.</enter></enter>		Exit Dytions Exit & Save Changes Exit & Discard Changes Discard Changes Load Setup Defaults		Exit system setup after saving the changes. F10 key can be used for this operation.
			<ul> <li>↔ Select Screen</li> <li>↑1 Select Item</li> <li>Enter Change</li> <li>F1 General Help</li> <li>F10 Saue and Exit</li> <li>ESC Exit</li> </ul>				<ul> <li>↔ Select Screen</li> <li>14 Select Item</li> <li>Enter Go to Sub Screen</li> <li>F1 General Help</li> <li>F10 Save and Exit</li> <li>ESC Exit</li> </ul>
19	v2.51 (C)Copyrigh	nt 1985-2002, American Meg	atrends, Inc.	20	v2.51 (C)Copyright 1985-2002, Amer	ican Meg	atrends, Inc.

Before configuring the RAID-1 array in screen 2, some BIOS pages will show different values :

BIOS SETUP UTILITY		BIO	S SETUP UTILITY	
Main Advanced Power Boot Exit				
System Time       [11:08:19]         System Date       IMon 05/15/2006]         Legacy Diskette A       IDisabled]         Language       IEnglish]         P Frimary IDE Master       : [Not Detected]         P Frimary IDE Master       : INot Detected]         Secondary IDE Slave       : [Not Detected]         Third IDE Master       : [PUJITSU MHV2040BH]         Fourth IDE Master       : [FUJITSU MHV2040BH]         * Die Configuration       * System Information	<enter> to select Floppy type. → Select Screen 14 Select Iten + Change Option F1 General Help F10 Save and Exit ESC Exit</enter>	Boot Device Priority 1st Boot Device D 2nd Boot Device C 3rd Boot Device D	PS-LITE-ON CD-RU SI 3M-FUJITSU MHV2040) Disabled)	Specifies the boot sequence from the available devices. A device enclosed in parenthesis has been disabled in the corresponding type menu. ↔ Select Screen t↓ Select Item +- Change Option F1 General Help F10 Save and Exit ESC Exit
u2.51 (C)Comunight 1985-2002, American Meg	atrends. Inc	v2.51 (C) Comunication 1985	5-2002. American Merra	atrends. Inc.
1A Disks will appear as single dri	Ves	17A Boot Device Pri	iority without	RAID entry
BIOS SETUP UTILITY				,
Based and a state of a state of Boot				
Hard Disk Drives	Specifies the boot			
Ist Drive (3H-FUJITSU HHV2040) Znd Drive (4H-FUJITSU HHV2040)	sequence from the available devices.	Save BIOS after conf BIOS to enter the fina screen 1 - 20.	iguring RAID al RAID settin	and re-enter ngs as shown on
v2.51 (C)Copyright 1985-2002, American Meg	<ul> <li>↔ Select Screen</li> <li>↑↓ Select Iten</li> <li>← Change Option</li> <li>F1 General Help</li> <li>F10 Save and Exit</li> <li>ESC Exit</li> <li>atrends, Inc.</li> </ul>			