

VoIP - Media Gateway

User Manual

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1. Introduction

The Junghanns.NET Voice over IP Media Gateway (voip-mg) provides VoIP capability to all Junghanns.NET telecommunication cards. Junghanns.NET GSM cards are supported from version 1.0 and Junghanns.NET BRI and PRI ISDN cards from version 1.2. The application uses an opensource zaptel and DAHDI driver and offers an Asterisk independent solution. The approved cards can now easily adopted by any SIP or IAX2 compatible VoIP PBX (i.e. FreeSwitch, pbxnsip, Yate, Asterisk™ Business Edition® or Microsoft Office Communication Server®). The configuration is organized by a webinterface, which communicates with the HTTP/XML interface of voip-mg.

Manufacturers of VoIP PBXes can use the GPL licenced webinterface as a comfortable and easy first step into integrating the HTTP/XML interface into their own user interface. Voip-mg was designed as a simple media gateway and offers a better performance (less CPU load for the same amount of concurrent calls) compared to Asterisk based systems, because it does not use a complex multithreading PBX core, which makes it also ideally suited for embedded solutions.

The architecture of voip-mg is only created for running as a media gateway and provides better performance compared to Asterisk, because it does not contain an extensive PBX core. This is especially for embedded systems very interesting.

2. Hardware installation

Make sure all your jumpers are set correctly. Do not forget to set the jumper according to your PCI slot voltage to 3.3V or 5V.

Refer to Appendix on how to set your Jumper settings for your Junghanns.NET card.

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3. Software installation

Download the Junghanns.NET VoIP Media Gateway by using this link:

<http://www.junghanns.net/en/download.html>

Please refer to the included „README“ file for informations on how to install the Junghanns.NET VoIP Media Gateway.

4. Configuration Wizard

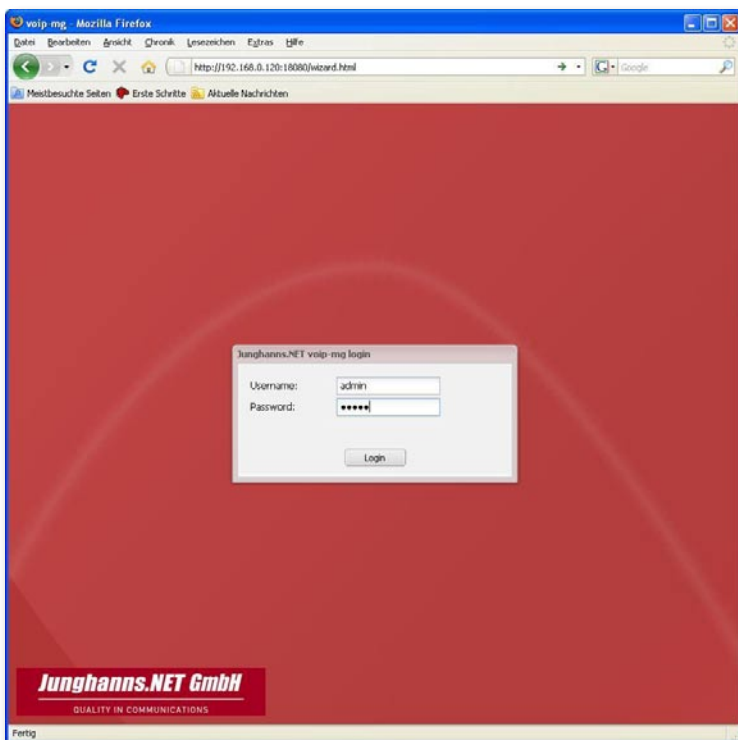


Image 4.1 Loginscreen to the Configuration Wizard

4.1 Accessing the Configuration Wizard

To access the Junghanns.NET VoIP - Media Gateway Configuration Wizard type „http://<ip of your VoIP Media Gateway>/index.html“ into the address field of your browser and press enter.

Hint: Replace „<ip of your VoIP - Media Gateway>“ with the IP of the Computer running Junghanns.NET VoIP - Media Gateway. Java Script has to be activated in your browser, to run the Configuration Wizard.

First of all you have to login. The loginname is „admin“ and the default password is „default“. Press „OK“ to login.

Hint: You should change your password later (See section 5.7)

4.2 Selecting the Configuration method

Click „Next Step“ to use the simple gateway method. The advanced gateway method will be available in a future version.

Hint: It is only possible to select „Simple gateway“.

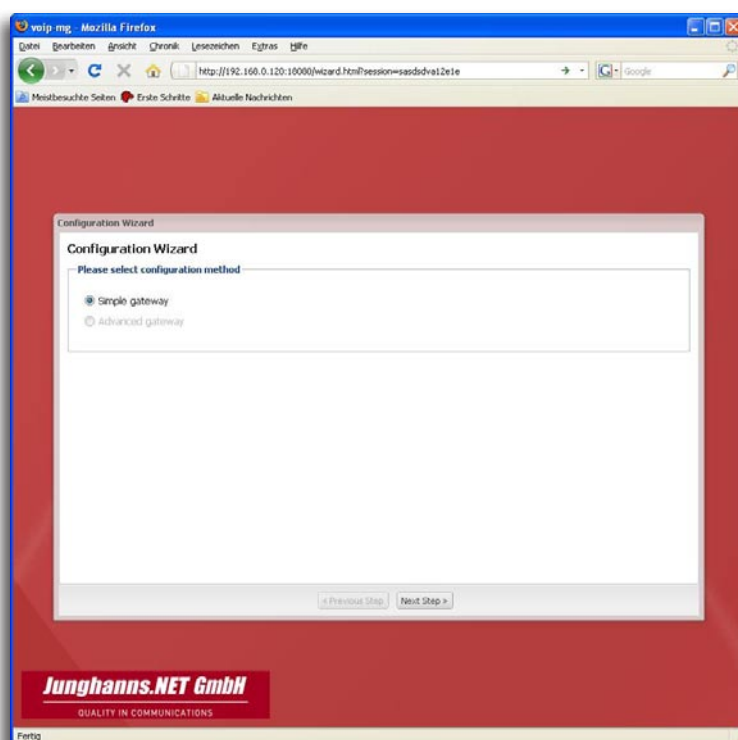


Image 4.2 Configuration method selection

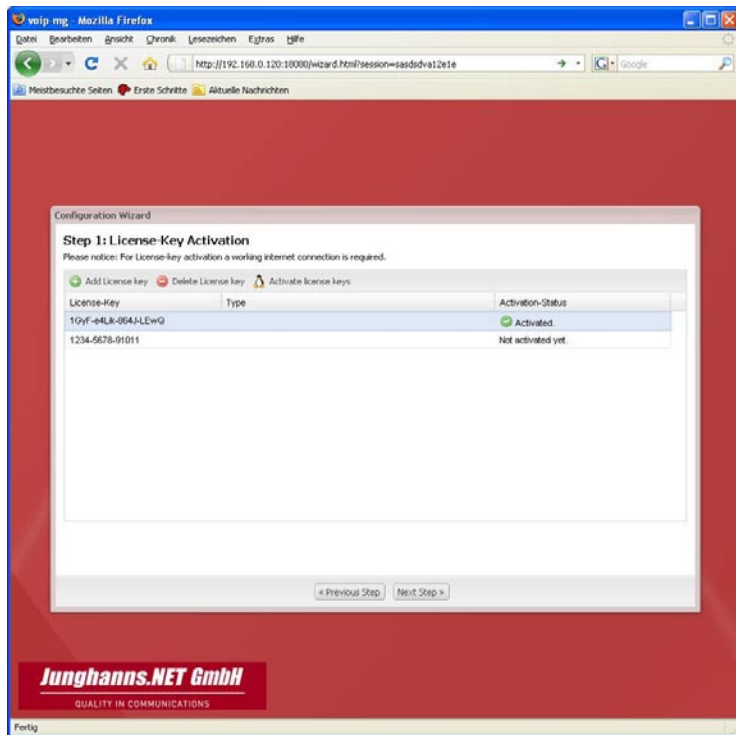


Image 4.3 License-Key selection

4.3 Step 1: License-Key Activation

To add a license key click „Add license key“, type in your license key and press „Add key“ to confirm your entry.

Now you will be able to activate your entered license keys by clicking „Activate license keys“. If a key is correct a green checkmark appears next to that key.

Hint: There is at least one activated license key required to preform to the next steps. Every card has its own license key. For license-key activation a working internet connection is required.

4.4 Step 2: VoIP settings

Select and configure the interface which will be used for communicating between the Junghanns.NET VoIP - Media Gateway and your PBX server.

4.4.1.a SIP-Interface settings

Here you can set up your SIP Interface. The SIP address is the valid network address the VoIP - Media Gateway should listen to. You can also change the communication port and the SIP from-domain.

Hint: Use 0.0.0.0 as SIP address to listen to all available IPs of the system.

4.4.1.b IAX2-Interface settings

Here you can set up your IAX2 Interface. It is possible to change the IAX2 address and port the VoIP - Media Gateway should listen to.

Hint: Use 0.0.0.0 as IAX2 address to listen to all available IPs of the system.

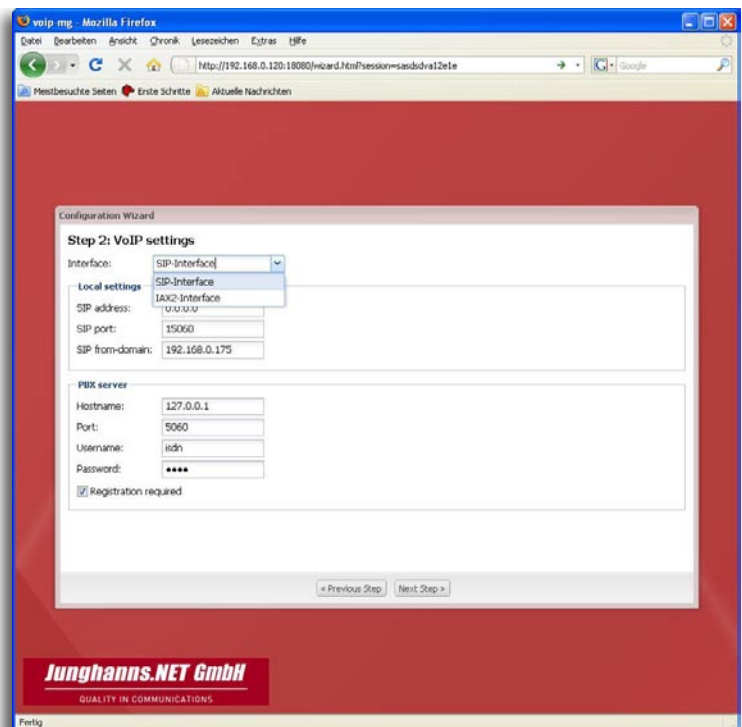


Image 4.4 VoIP Settings

4.4.2 PBX server settings

Enter the Domain or IP of your PBX server and the port used for communication. If your PBX server requires registration, fill in the username and password and check „Registration required“.

Hint: If the Junghanns.NET VoIP - Media Gateway and the PBX server running on the same system, use „localhost“ or „127.0.0.1“ as Hostname

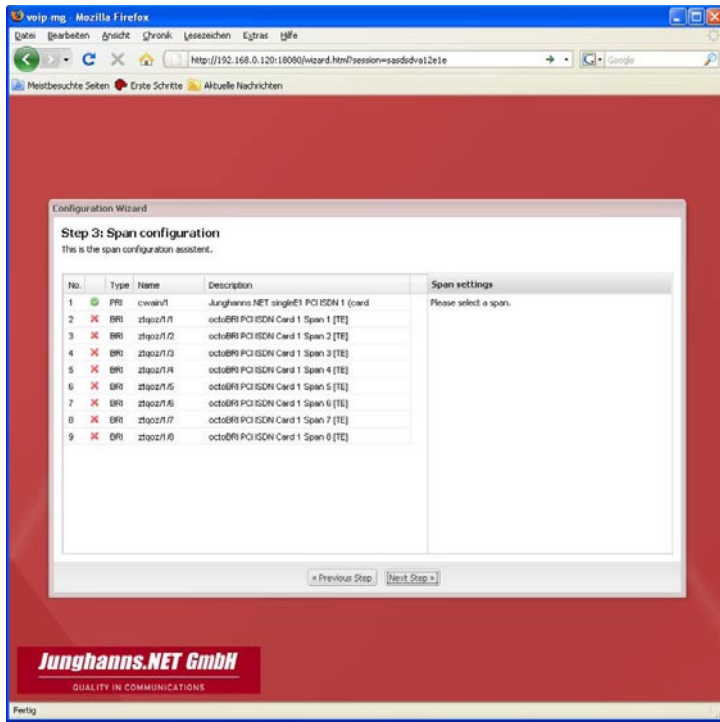


Image 4.5 Span overview

4.5 Step 3: Span configuration

At this point you see an overview of all spans. Click on different spans to configure the spans individually.

Hint: All spans are detected automatically. Spans with no license key are greyed out.

4.5.1 Individual span settings

Hint: Do not forget to save your changes before editing an additional span.

Check the box next to **Active** to activate the specific span or uncheck the box to deactivate it.

Select your **Country** by choosing one out of the dropdown menu. The prefix will be set according to your selection.

Type in a name for the **Group**, used by the PBX to specify, which spans are used to dial out.

Hint: Set the group to value 0, to use the default group for this span.

You have to decide if your **Signalling** should be *point-to-multi-point (ptmp)* if available and whether the signalling should be for *customer-premises equipment (cpe)* or *network termination (net)*. By choosing *auto* the system tries to determine the correct setting on its own.

Choose the correct value for **Echocancel** by using the drop down menu.

It is possible for you to choose between three different values for **Debug**. If you want to see the debug results with the debug viewer of the webinterface you have to choose *XML trace*, otherwise choose *console debug* to use the console output for debugging messages or deactivate debugging by using *no debug*.

Check or uncheck the box right next to **CLIR** to either activate *Calling Line Identification Restriction* or not.

Hint: Your line has to support CLIR to activate it.

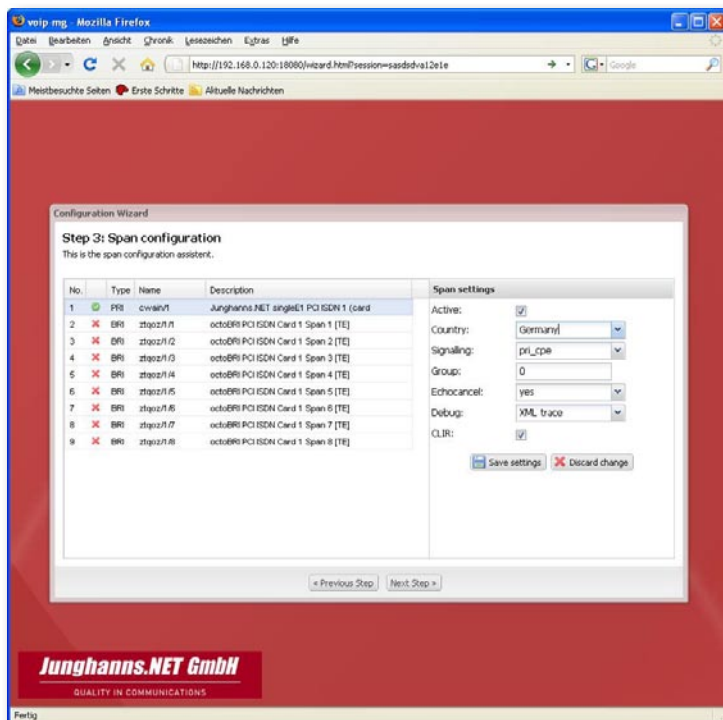


Image 4.5.1 Individual span configuration

4.6. HTTP port

Type in the port you want to use, to access the webinterface. The default port is 18080.

Hint: Make sure, that you choose an unused and valid HTTP port.

4.7 Change password

Here you have the possibility to change your password. To do so, type in your old password, the new password and validate your new password.

Hint: Keep your password in mind, you will need it to access the webinterface.

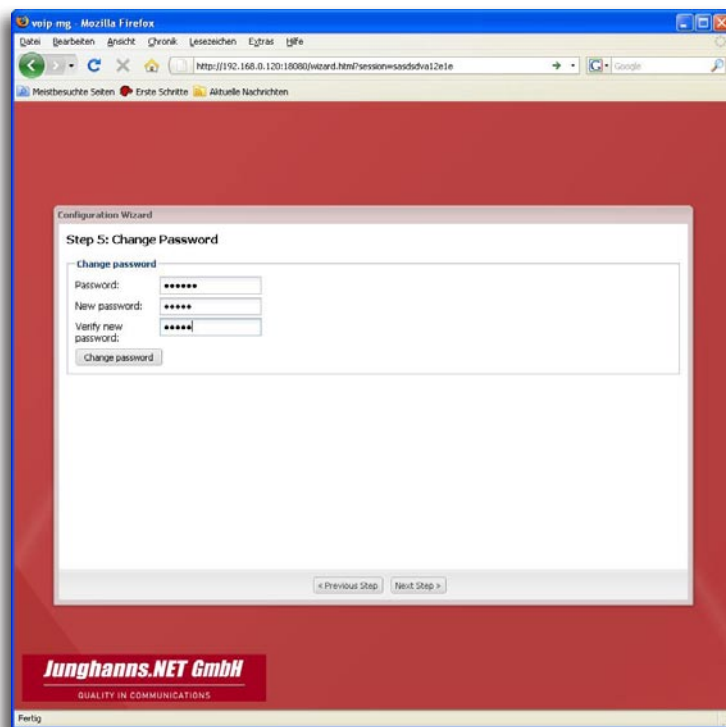


Image 4.7 Change password

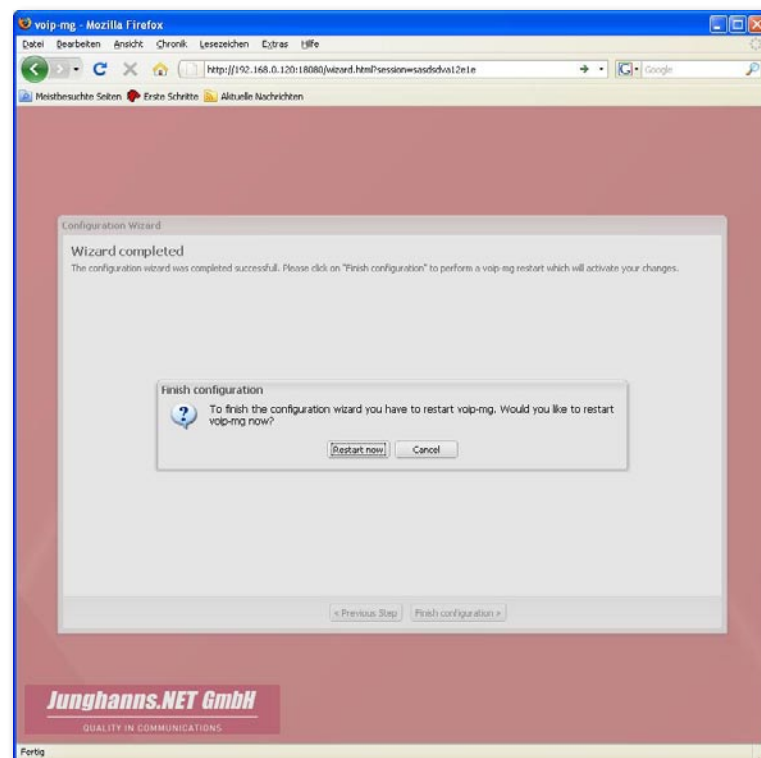


Image 5.8 Complete the wizard

4.8 Complete the wizard

To finish the basic configuration and complete the wizard press *Finish* configuration. The Junghanns.NET - Media Gateway software needs to be restarted for changes to take effect.

Hint: After finishing the wizard and rebooting voip-mg, you can change all configurations by using the webinterface.

5. Configuration Interface

5.1 Accessing the configuration interface

To access the Junghanns.NET VoIP - Media Gateway configuration interface type „http://<ip of your VoIP Media Gateway>/index.html“ into the address field of your browser and press enter.

Hint: Replace „<ip of your VoIP - Media Gateway>“ with the IP of the Computer running Junghanns.NET VoIP - Media Gateway. Java Script has to be activated for your browser, to run the Configuration Interface.

The loginname is „admin“ and the default password is „default“. Press „OK“ to login.

Hint: You can change your password. (See section 6.5)

5.2 System status

Here you can see an overview of all active calls and their details.

5.3 License management

See section 5.3 for information on how to activate a license key.

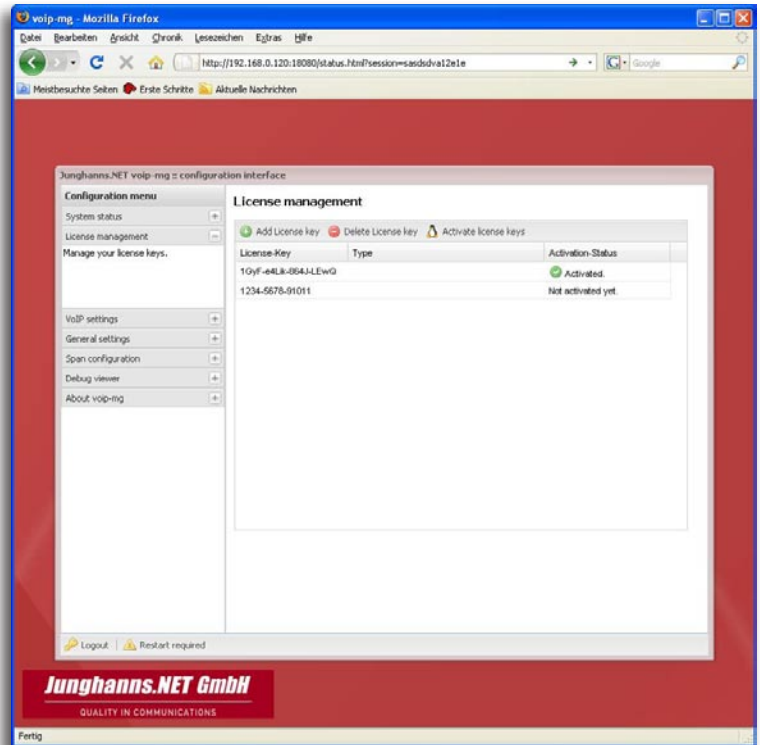


Image 5.1 Configuration interface

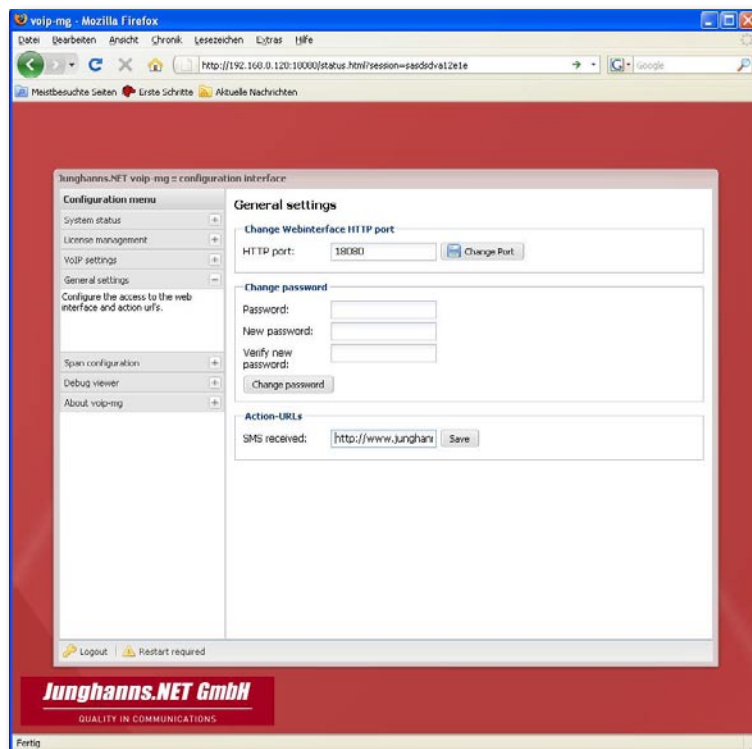


Image 5.5 General settings

5.4 VoIP settings

Set up your VoIP as described in section 5.4.

5.5 General settings

Here you can change the used HTTP port and your password.

Here you also can set an action URL, which will be called when an incoming SMS arrives.

Hint: Do not forget to save your settings.

5.6 Span configuration

Configure your spans as shown in section 5.5.

5.7 Debug viewer

The debug viewer shows debug informations about these spans for which „XML trace“ is selected. See section 6.6 to get informations on how to configure your spans.

5.6 About voip-mg

Get some information about voip-mg.

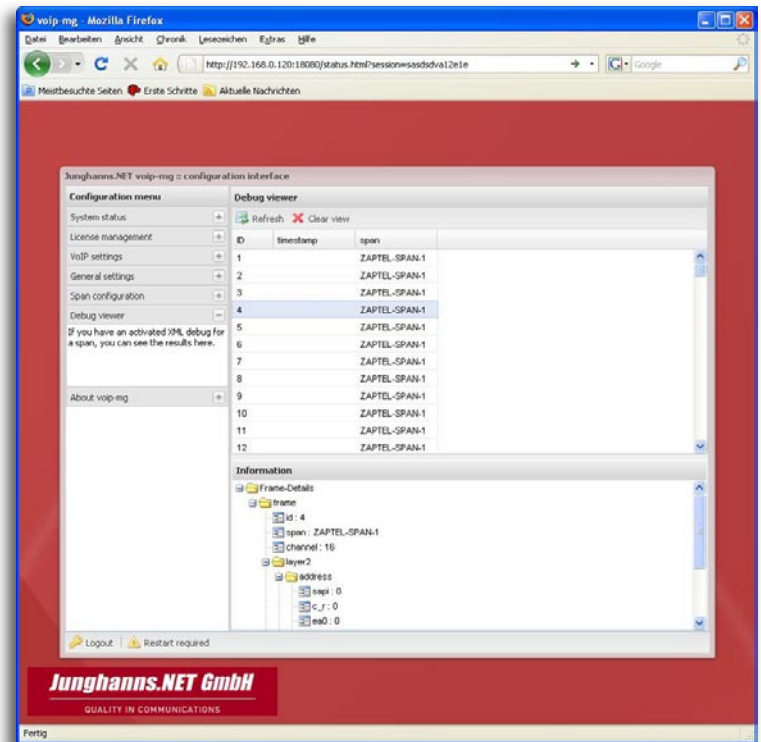
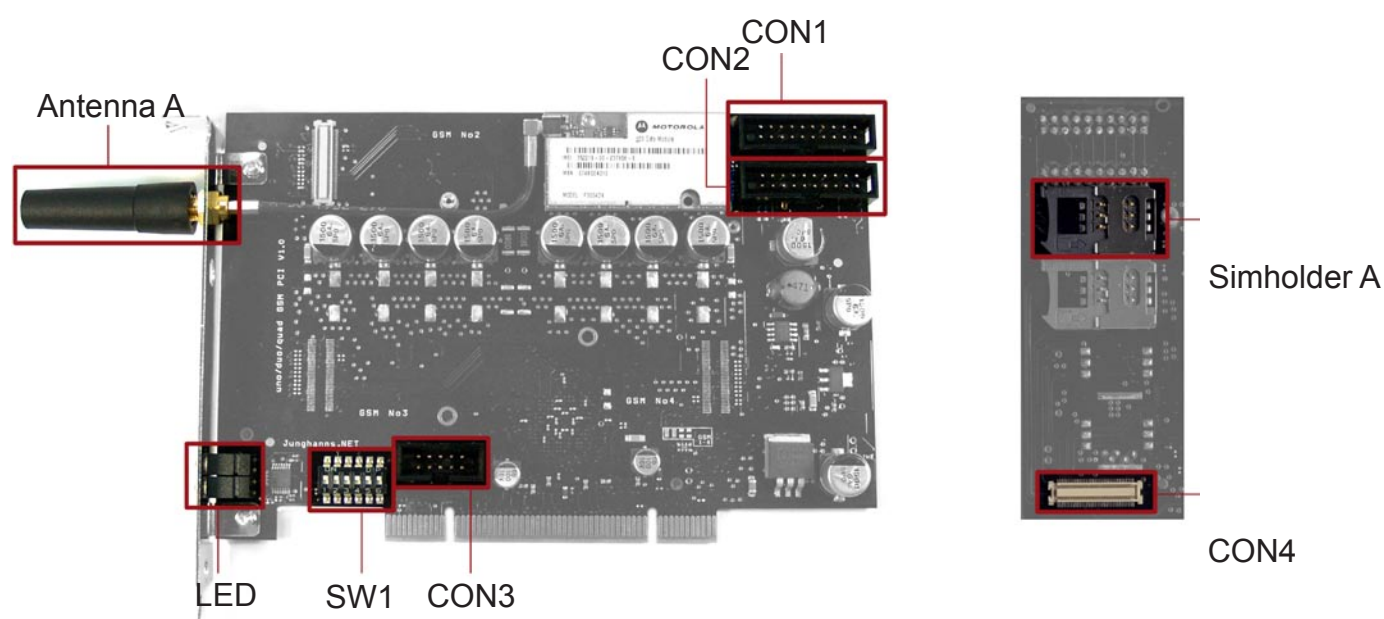


Image 5.7 Debug viewer

6. Appendix

6.1 Jumpersettings

6.1.1 Junghanns.NET unoGSM PCI

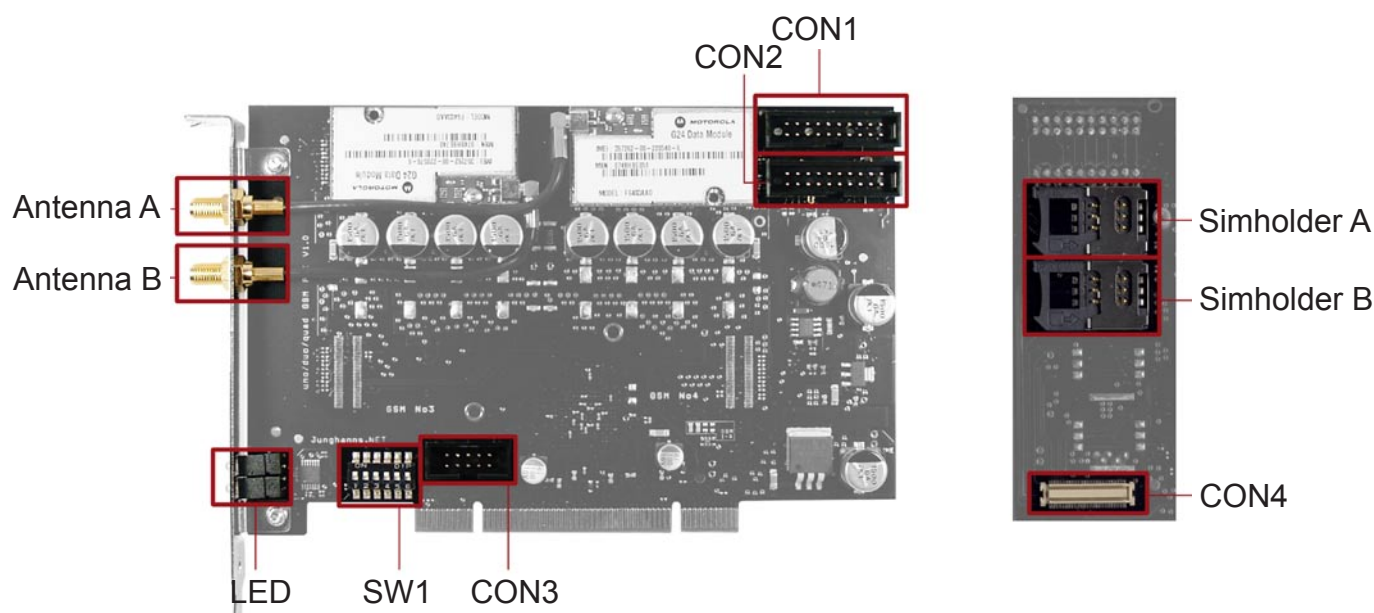


Status LED's	
LED	1 = Interface 2
	2 = Interface 1
	3 = Interface 3
	4 = Interface 4
	Module activated
	Module deactivated

Card ID switches	
SW1	Use DIP switches 1 to 3 to set the card ID (very useful for remotely identifying individual cards):
	Card-ID 0 1 2 3 4 5 6 7
	SW1_1 OFF ON OFF ON OFF ON OFF ON
	SW1_2 OFF OFF ON ON OFF OFF ON ON
	SW1_3 OFF OFF OFF OFF ON ON ON ON

CON1	PCM out
CON2	PCM in
CON3	JTAG
CON4	Additional simholder connector

6.1.2 Junghanns.NET duoGSM PCI



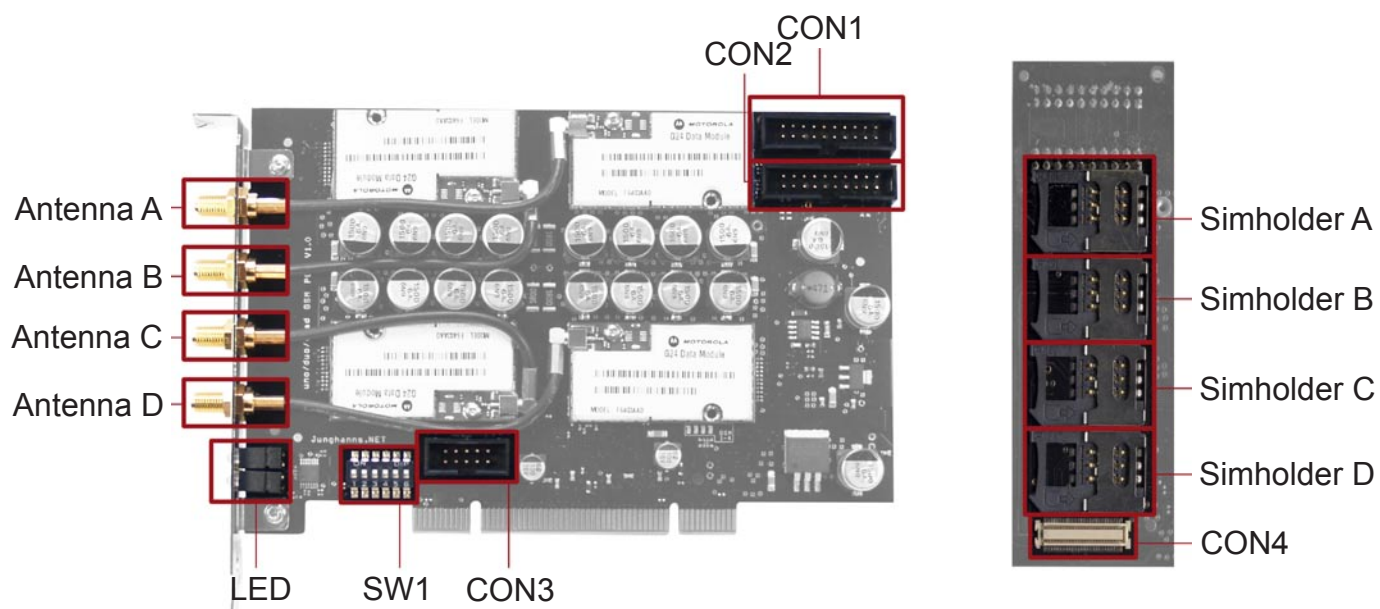
LED	Status LED's	
	<div> <div>1</div> <div>2</div> <div>3</div> <div>4</div> </div> <div> <div>1 = Interface 2</div> <div>2 = Interface 1</div> <div>3 = Interface 3</div> <div>4 = Interface 4</div> </div>	<div> <div>Module activated</div> <div>Module deactivated</div> </div>

SW1

Card ID switches									
Use DIP switches 1 to 3 to set the card ID (very useful for remotely identifying individual cards):									
Card-ID	0	1	2	3	4	5	6	7	
SW1_1	OFF	ON	OFF	ON	OFF	ON	OFF	ON	
SW1_2	OFF	OFF	ON	ON	OFF	OFF	ON	ON	
SW1_3	OFF	OFF	OFF	OFF	ON	ON	ON	ON	

CON1	PCM out
CON2	PCM in
CON3	JTAG
CON4	Additional simholder connector

6.1.3 Junghanns.NET quadGSM PCI

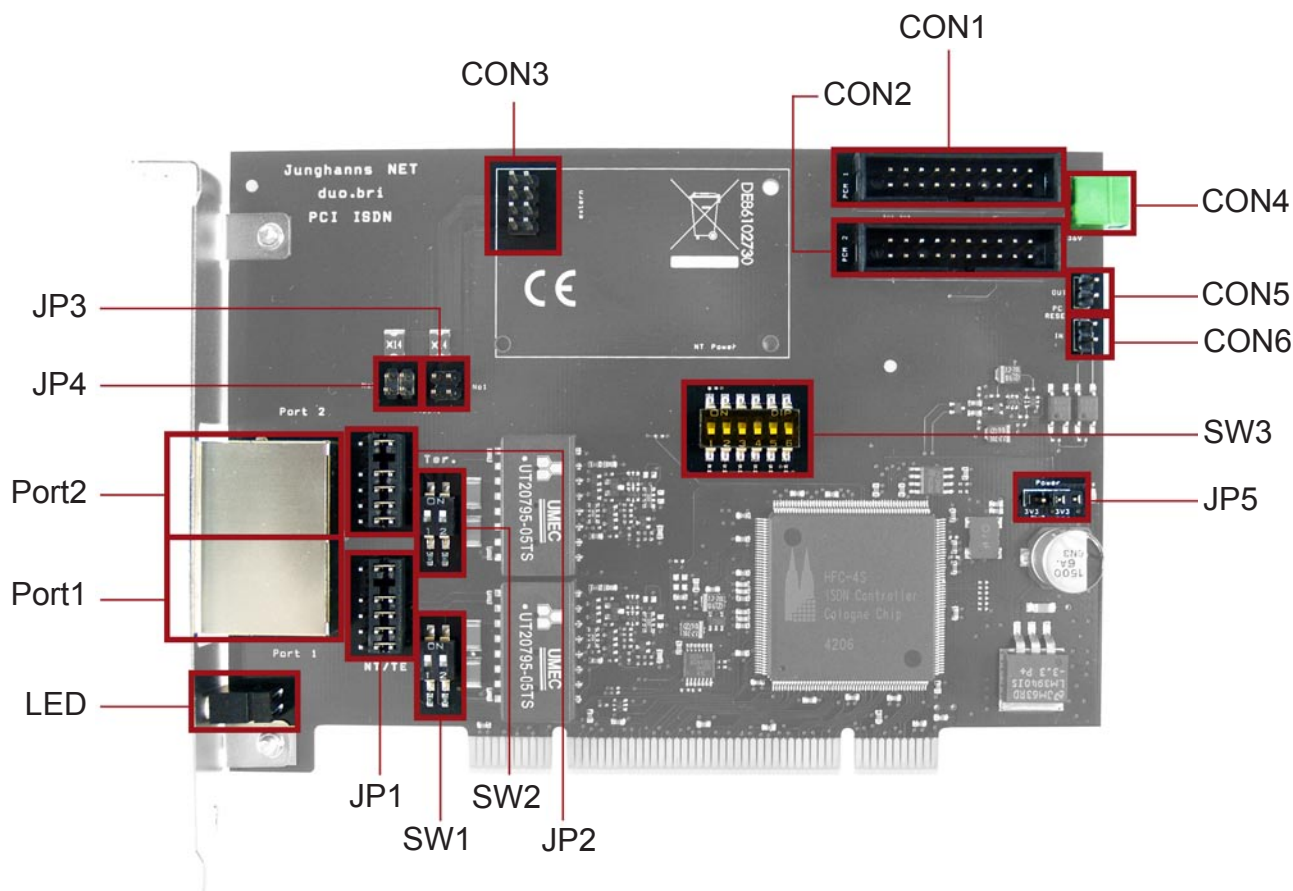


Status LED's	
LED	1 = Interface 2
	2 = Interface 1
	3 = Interface 3
	4 = Interface 4
	<div style="display: inline-block; width: 10px; height: 10px; background-color: green; border-radius: 50%;"></div> Module activated <div style="display: inline-block; width: 10px; height: 10px; background-color: red; border-radius: 50%;"></div> Module deactivated



SW1	Card ID switches								
	Use DIP switches 1 to 3 to set the card ID (very useful for remotely identifying individual cards):								
	Card-ID	0	1	2	3	4	5	6	7
	SW1_1	OFF	ON	OFF	ON	OFF	ON	OFF	ON
	SW1_2	OFF	OFF	ON	ON	OFF	OFF	ON	ON
	SW1_3	OFF	OFF	OFF	OFF	ON	ON	ON	ON

CON1	PCM out
CON2	PCM in
CON3	JTAG
CON4	Additional simholder connector

6.1.4 Junghanns.NET duoBRI PCI

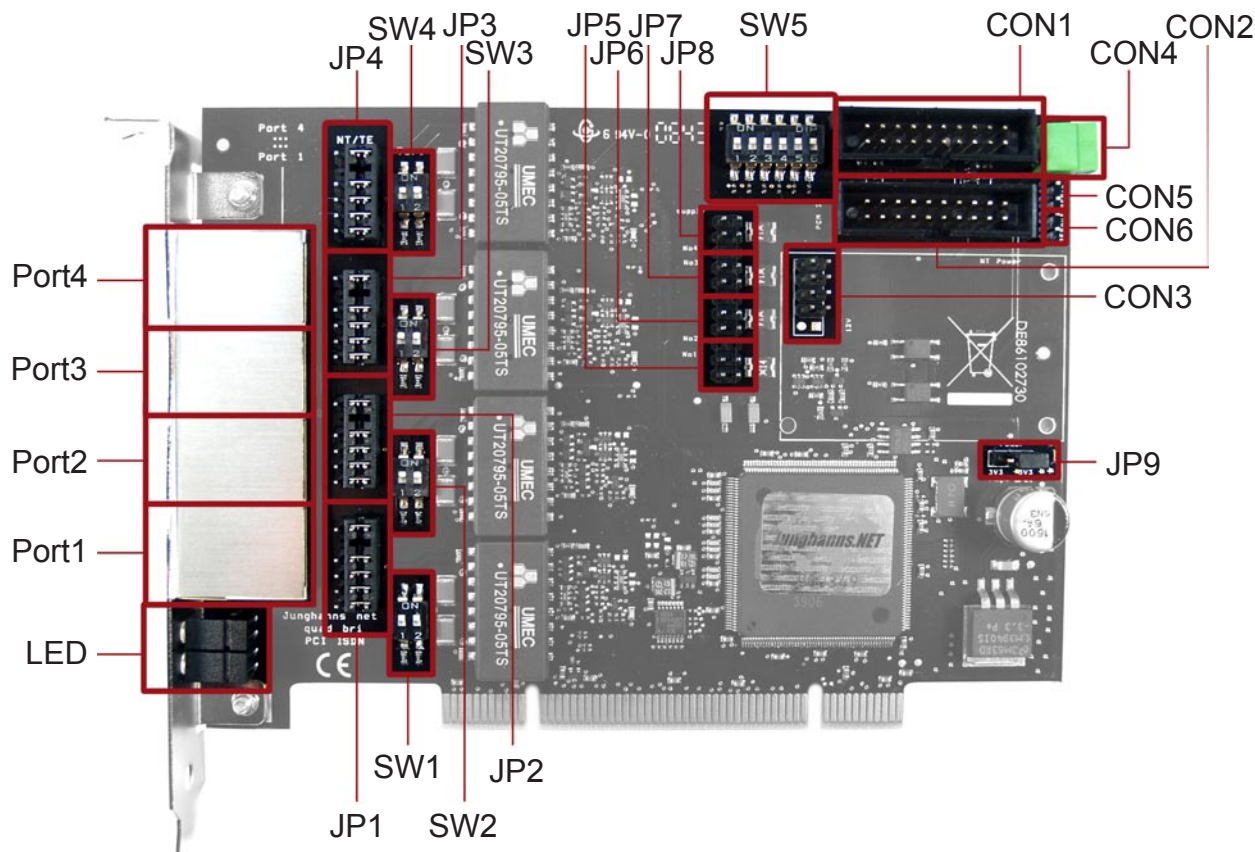


JP1-2	NT/TE settings port X	
	Set all jumpers to the left to select NT mode for port X	Set all jumpers to the right to select TE mode for port X
JP3-4	Power feeding port X (only for NT mode)	
	Power feeding enabled for port X (PFM required)	Power feeding disabled for port X (factory default)
JP5	Power supply configuration	
	Uses 3.3V from the PCI bus (only available in 3.3V PCI slots)	Generates 3.3V out of the 5V from the PCI bus (factory default)
LED	Status LED	
	Layer 1 activated Layer 1 deactivated	

SW1-2	Termination of S/T interface port X (100Ω)																																				
	 Both switches in ON position activates termination for port X	 Both switches in OFF position deactivates termination for port X																																			
SW3	Card ID switches																																				
	Use DIP switches 1 to 3 to set the card ID (very useful for remotely identifying individual cards): <table><tr><th>Card-ID</th><th>0</th><th>1</th><th>2</th><th>3</th><th>4</th><th>5</th><th>6</th><th>7</th></tr><tr><td>SW3_1</td><td>OFF</td><td>ON</td><td>OFF</td><td>ON</td><td>OFF</td><td>ON</td><td>OFF</td><td>ON</td></tr><tr><td>SW3_2</td><td>OFF</td><td>OFF</td><td>ON</td><td>ON</td><td>OFF</td><td>OFF</td><td>ON</td><td>ON</td></tr><tr><td>SW3_3</td><td>OFF</td><td>OFF</td><td>OFF</td><td>OFF</td><td>ON</td><td>ON</td><td>ON</td><td>ON</td></tr></table>		Card-ID	0	1	2	3	4	5	6	7	SW3_1	OFF	ON	OFF	ON	OFF	ON	OFF	ON	SW3_2	OFF	OFF	ON	ON	OFF	OFF	ON	ON	SW3_3	OFF	OFF	OFF	OFF	ON	ON	ON
Card-ID	0	1	2	3	4	5	6	7																													
SW3_1	OFF	ON	OFF	ON	OFF	ON	OFF	ON																													
SW3_2	OFF	OFF	ON	ON	OFF	OFF	ON	ON																													
SW3_3	OFF	OFF	OFF	OFF	ON	ON	ON	ON																													



CON1	PCM out
CON2	PCM in
CON3	Onboard PFM connector (available optionally)
CON4	Power connector Connector for the external power feeding module to feed S/T interfaces of up to 4 duo- or quadBRI cards (available optionally)
CON5	Watchdog connector out Connect to reset switch on mainboard
CON6	Watchdog connector in Connect to reset switch on PC chassis

6.1.5 Junghanns.NET quadBRI PCI



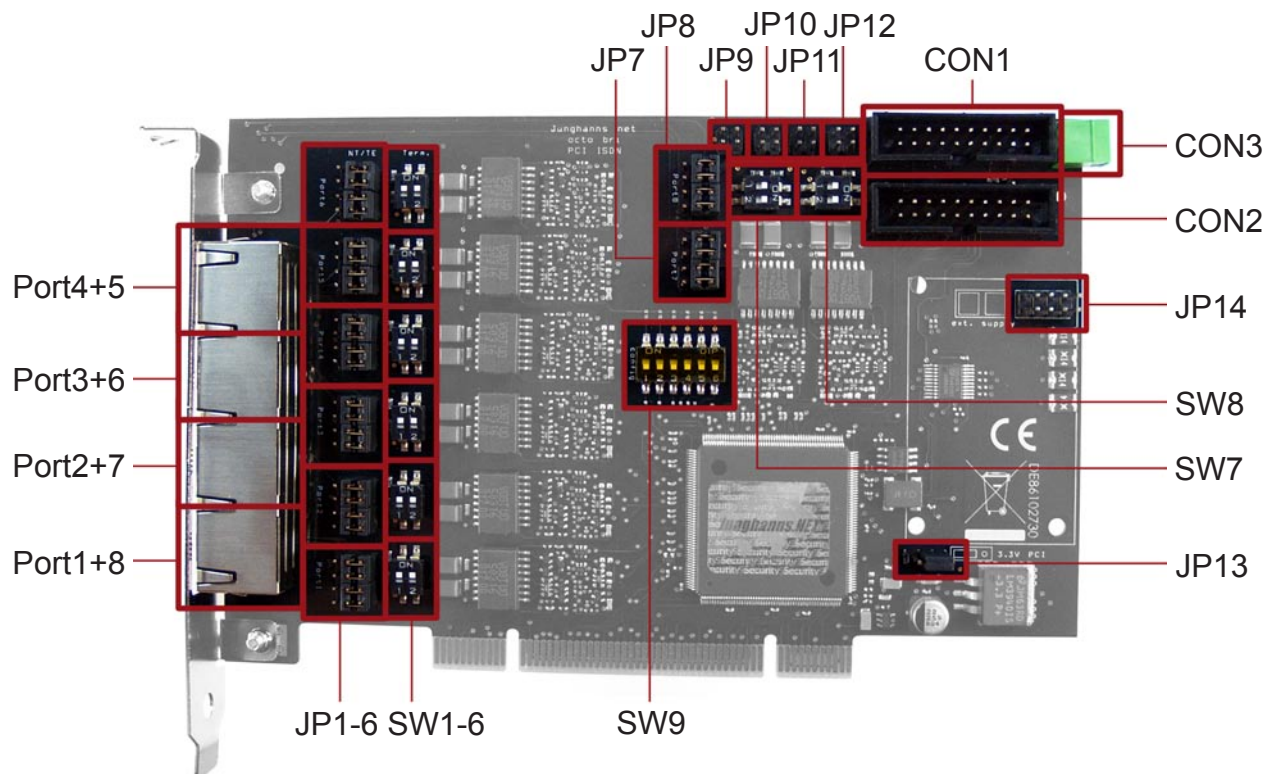
JP1-4	NT/TE settings port X	
	Set all jumpers to the left to select NT mode for port X	Set all jumpers to the right to select TE mode for port X
JP5-8	Power feeding port X (only for NT mode)	
	Power feeding enabled for port X (PFM required)	Power feeding disabled for port X (factory default)
JP9	Power supply configuration	
	Uses 3.3V from the PCI bus (only available in 3.3V PCI slots)	Generates 3.3V out of the 5V from the PCI bus (factory default)

LED	Status LED	
	Layer 1 activated Layer 1 deactivated	



SW1-4	Termination of S/T interface port X (100Ω)																																					
	 Both switches in ON position activates termination for port X	 Both switches in OFF position deactivates termination for port X																																				
SW5	Card ID switches																																					
	Use DIP switches 1 to 3 to set the card ID (very useful for remotely identifying individual cards):																																					
	<table><tr><th>Card-ID</th><th>0</th><th>1</th><th>2</th><th>3</th><th>4</th><th>5</th><th>6</th><th>7</th></tr><tr><td>SW5_1</td><td>OFF</td><td>ON</td><td>OFF</td><td>ON</td><td>OFF</td><td>ON</td><td>OFF</td><td>ON</td></tr><tr><td>SW5_2</td><td>OFF</td><td>OFF</td><td>ON</td><td>ON</td><td>OFF</td><td>OFF</td><td>ON</td><td>ON</td></tr><tr><td>SW5_3</td><td>OFF</td><td>OFF</td><td>OFF</td><td>OFF</td><td>ON</td><td>ON</td><td>ON</td><td>ON</td></tr></table>		Card-ID	0	1	2	3	4	5	6	7	SW5_1	OFF	ON	OFF	ON	OFF	ON	OFF	ON	SW5_2	OFF	OFF	ON	ON	OFF	OFF	ON	ON	SW5_3	OFF	OFF	OFF	OFF	ON	ON	ON	ON
	Card-ID	0	1	2	3	4	5	6	7																													
SW5_1	OFF	ON	OFF	ON	OFF	ON	OFF	ON																														
SW5_2	OFF	OFF	ON	ON	OFF	OFF	ON	ON																														
SW5_3	OFF	OFF	OFF	OFF	ON	ON	ON	ON																														

CON1	PCM out
CON2	PCM in
CON3	Onboard PFM connector (available optionally)
CON4	Power connector
	Connector for the external power feeding module to feed S/T interfaces of up to 4 duo- or quadBRI cards (available optionally)
CON5	Watchdog connector out
	Connect to reset switch on mainboard
CON6	Watchdog connector in
	Connect to reset switch on PC chassis

6.1.6 Junghanns.NET octoBRI PCI

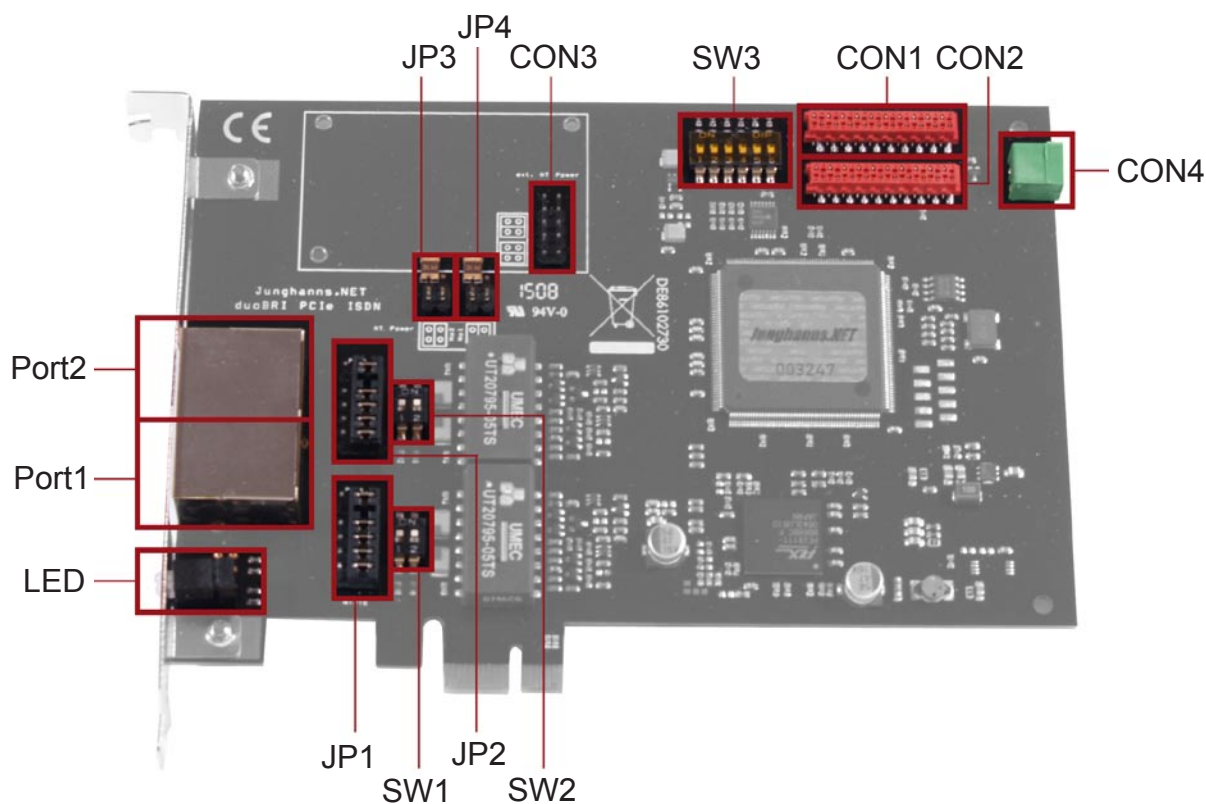


JP1-8	NT/TE settings port X	
	Set all jumpers to the left to select NT mode for port X	Set all jumpers to the right to select TE mode for port X
JP9-12	Power feeding port X (only for NT mode)	
	Power feeding enabled for port X (PFM required)	Power feeding disabled for port X (factory default)
JP13	Power supply configuration	
	Uses 3.3V from the PCI bus (only available in 3.3V PCI slots)	Generates 3.3V out of the 5V from the PCI bus (factory default)
JP14	Power feeding settings	
	Close the jumper bridges when using an external Power Feeding Module	

SW1-8	Termination of S/T interface port X (100Ω)																																				
	 Both switches in ON position activates termination for port X	 Both switches in OFF position deactivates termination for port X																																			
SW9	Card ID switches																																				
	Use DIP switches 1 to 3 to set the card ID (very useful for remotely identifying individual cards): <table><tr><th>Card-ID</th><th>0</th><th>1</th><th>2</th><th>3</th><th>4</th><th>5</th><th>6</th><th>7</th></tr><tr><td>SW9_1</td><td>OFF</td><td>ON</td><td>OFF</td><td>ON</td><td>OFF</td><td>ON</td><td>OFF</td><td>ON</td></tr><tr><td>SW9_2</td><td>OFF</td><td>OFF</td><td>ON</td><td>ON</td><td>OFF</td><td>OFF</td><td>ON</td><td>ON</td></tr><tr><td>SW9_3</td><td>OFF</td><td>OFF</td><td>OFF</td><td>OFF</td><td>ON</td><td>ON</td><td>ON</td><td>ON</td></tr></table>		Card-ID	0	1	2	3	4	5	6	7	SW9_1	OFF	ON	OFF	ON	OFF	ON	OFF	ON	SW9_2	OFF	OFF	ON	ON	OFF	OFF	ON	ON	SW9_3	OFF	OFF	OFF	OFF	ON	ON	ON
Card-ID	0	1	2	3	4	5	6	7																													
SW9_1	OFF	ON	OFF	ON	OFF	ON	OFF	ON																													
SW9_2	OFF	OFF	ON	ON	OFF	OFF	ON	ON																													
SW9_3	OFF	OFF	OFF	OFF	ON	ON	ON	ON																													



CON1	PCM out
CON2	PCM in
CON3	Power connector
	Connector for the external power feeding module to feed S/T interfaces of up to 4 duo- or quadBRI cards (available optionally)

6.1.7 Junghanns.NET duoBRI PCI Express



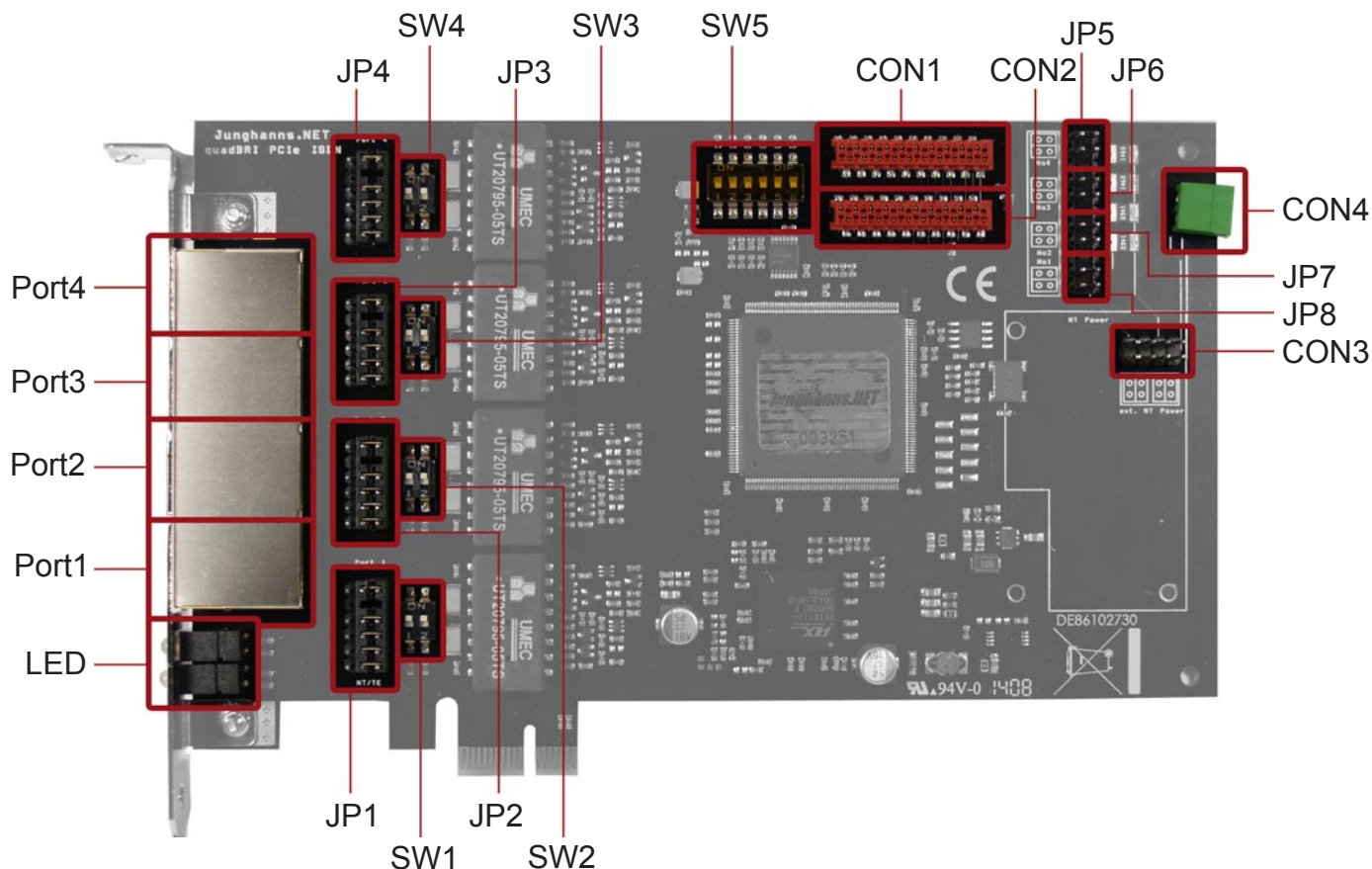
NT/TE settings port X			
JP1-2		Set all jumpers to the left to select NT mode for port X	
		Set all jumpers to the right to select TE mode for port X	
Power feeding port X (only for NT mode)			
JP3-4		Power feeding enabled for port X (PFM required)	
		Power feeding disabled for port X (factory default)	

Status LED	
LED	

	Termination of S/T interface port X (100Ω)								
SW1-2		Both switches in ON position activates termination for port X							
		Both switches in OFF position deactivates termination for port X							
SW3	Card ID switches								
	Use DIP switches 1 to 3 to set the card ID (very useful for remotely identifying individual cards):								
	Card-ID	0	1	2	3	4	5	6	7
	SW3_1	OFF	ON	OFF	ON	OFF	ON	OFF	ON
	SW3_2	OFF	OFF	ON	ON	OFF	OFF	ON	ON
	SW3_3	OFF	OFF	OFF	OFF	ON	ON	ON	ON



CON1	PCM out
CON2	PCM in
CON3	Onboard PFM connector (available optionally)
CON4	Power connector
	Connector for the external power feeding module to feed S/T interfaces of up to 4 duo- or quadBRI cards (available optionally)

6.1.8 Junghanns.NET quadBRI PCI Express



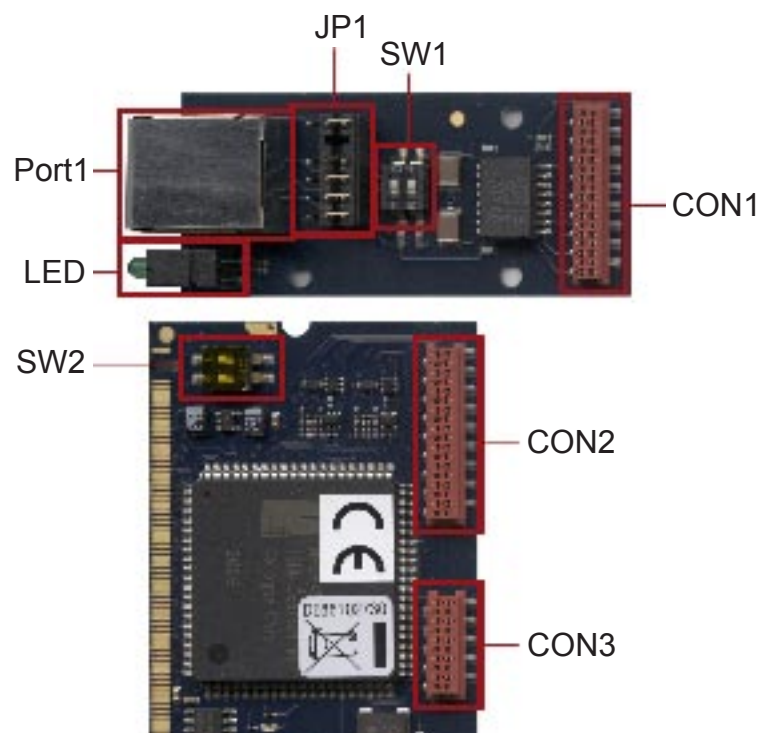
NT/TE settings port X		
JP1-4		Set all jumpers to the left to select NT mode for port X
		Set all jumpers to the right to select TE mode for port X
Power feeding port X (only for NT mode)		
JP5-8		Power feeding enabled for port X (PFM required)
		Power feeding disabled for port X (factory default)



Status LED	
LED	Layer 1 activated
	Layer 1 deactivated



	Termination of S/T interface port X (100Ω)																																					
SW1-4	 Both switches in ON position activates termination for port X	 Both switches in OFF position deactivates termination for port X																																				
SW5	Card ID switches																																					
	Use DIP switches 1 to 3 to set the card ID (very useful for remotely identifying individual cards):																																					
	<table><tr><th>Card-ID</th><th>0</th><th>1</th><th>2</th><th>3</th><th>4</th><th>5</th><th>6</th><th>7</th></tr><tr><td>SW5_1</td><td>OFF</td><td>ON</td><td>OFF</td><td>ON</td><td>OFF</td><td>ON</td><td>OFF</td><td>ON</td></tr><tr><td>SW5_2</td><td>OFF</td><td>OFF</td><td>ON</td><td>ON</td><td>OFF</td><td>OFF</td><td>ON</td><td>ON</td></tr><tr><td>SW5_3</td><td>OFF</td><td>OFF</td><td>OFF</td><td>OFF</td><td>ON</td><td>ON</td><td>ON</td><td>ON</td></tr></table>		Card-ID	0	1	2	3	4	5	6	7	SW5_1	OFF	ON	OFF	ON	OFF	ON	OFF	ON	SW5_2	OFF	OFF	ON	ON	OFF	OFF	ON	ON	SW5_3	OFF	OFF	OFF	OFF	ON	ON	ON	ON
	Card-ID	0	1	2	3	4	5	6	7																													
	SW5_1	OFF	ON	OFF	ON	OFF	ON	OFF	ON																													
SW5_2	OFF	OFF	ON	ON	OFF	OFF	ON	ON																														
SW5_3	OFF	OFF	OFF	OFF	ON	ON	ON	ON																														



CON1	PCM out
CON2	PCM in
CON3	Onboard PFM connector (available optionally)
CON4	Power connector
	Connector for the external power feeding module to feed S/T interfaces of up to 4 duo- or quadBRI cards (available optionally)

6.1.9 Junghanns.NET unoBRI miniPCI



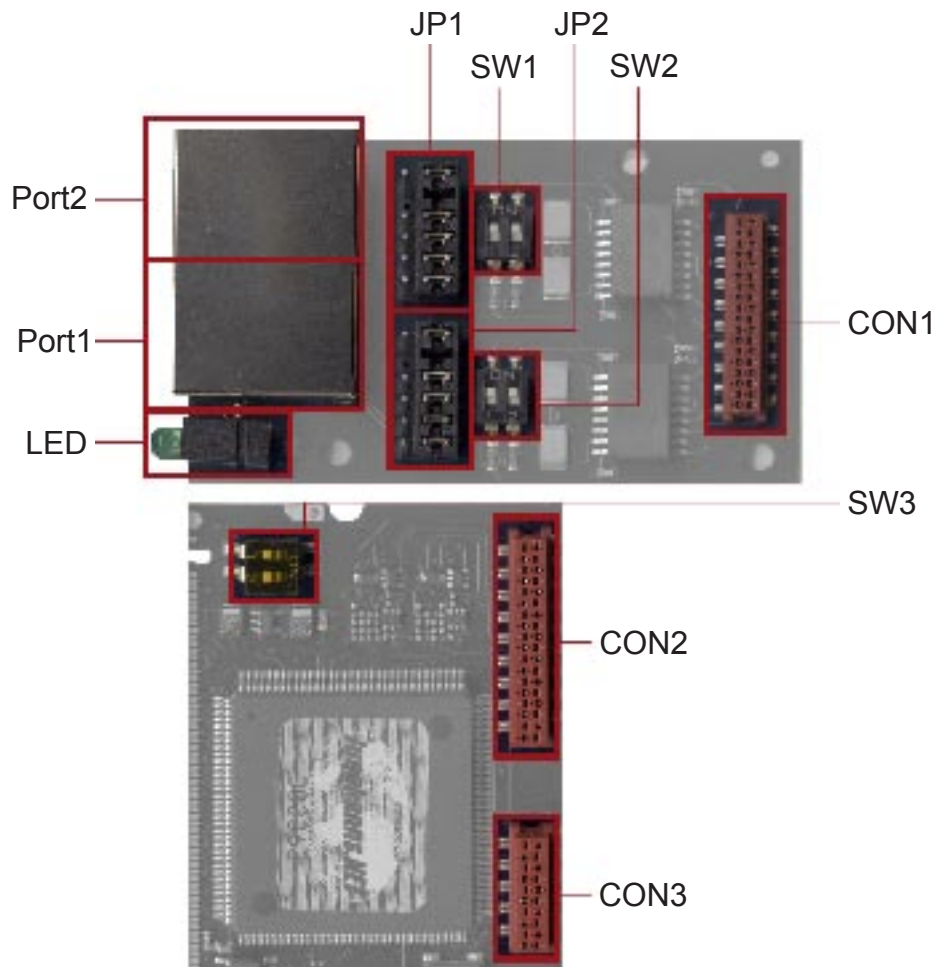
NT/TE settings port X	
JP1	<div>  Set all jumpers to the left to select NT mode for port X </div> <div>  Set all jumpers to the right to select TE mode for port X </div>







Status LED	
LED	<div>  Layer 1 activated </div> <div>  Layer 1 deactivated </div>

	Termination of S/T interface port X (100Ω)															
SW1	 Both switches in ON position activates termination for port X	 Both switches in OFF position deactivates termination for port X														
SW2	Card ID switches															
	Use DIP switches 1 to 2 to set the card ID (very useful for remotely identifying individual cards):															
	<table><tr><th>Card-ID</th><th>0</th><th>1</th><th>2</th><th>3</th></tr><tr><td>SW2_1</td><td>OFF</td><td>ON</td><td>OFF</td><td>ON</td></tr><tr><td>SW2_2</td><td>OFF</td><td>OFF</td><td>ON</td><td>ON</td></tr></table>	Card-ID	0	1	2	3	SW2_1	OFF	ON	OFF	ON	SW2_2	OFF	OFF	ON	ON
Card-ID	0	1	2	3												
SW2_1	OFF	ON	OFF	ON												
SW2_2	OFF	OFF	ON	ON												

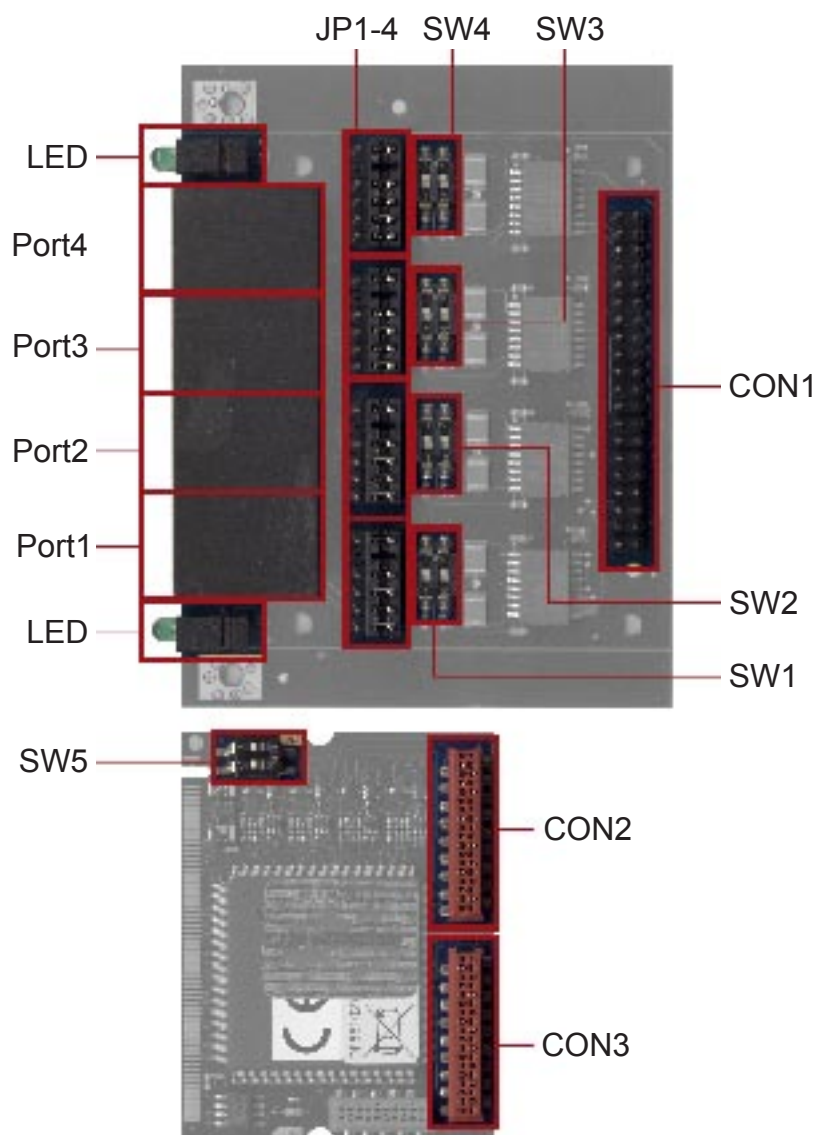
CON1	miniPCI connector Conenctor for the miniPCI card
CON2	Connector for the RJ45 board
CON3	PCM Connector

6.1.10 Junghanns.NET duoBRI miniPCI



JP1-2	NT/TE settings port X															
	 Set all jumpers to the left to select NT mode for port X	 Set all jumpers to the right to select TE mode for port X														
LED	Status LED															
	 Layer 1 activated  Layer 1 deactivated															
SW1-2	Termination of S/T interface port X (100Ω)															
	 Both switches in ON position activates termination for port X	 Both switches in OFF position deactivates termination for port X														
SW3	Card ID switches															
	Use DIP switches 1 to 2 to set the card ID (very useful for remotely identifying individual cards): <table><tr><td>Card-ID</td><td>0</td><td>1</td><td>2</td><td>3</td></tr><tr><td>SW3_1</td><td>OFF</td><td>ON</td><td>OFF</td><td>ON</td></tr><tr><td>SW3_2</td><td>OFF</td><td>OFF</td><td>ON</td><td>ON</td></tr></table>		Card-ID	0	1	2	3	SW3_1	OFF	ON	OFF	ON	SW3_2	OFF	OFF	ON
Card-ID	0	1	2	3												
SW3_1	OFF	ON	OFF	ON												
SW3_2	OFF	OFF	ON	ON												
CON1	miniPCI connector															
	Conenctor for the miniPCI card															
CON2	Connector for the RJ45 board															
CON3	PCM Connector															

6.1.11 Junghanns.NET quadBRI miniPCI



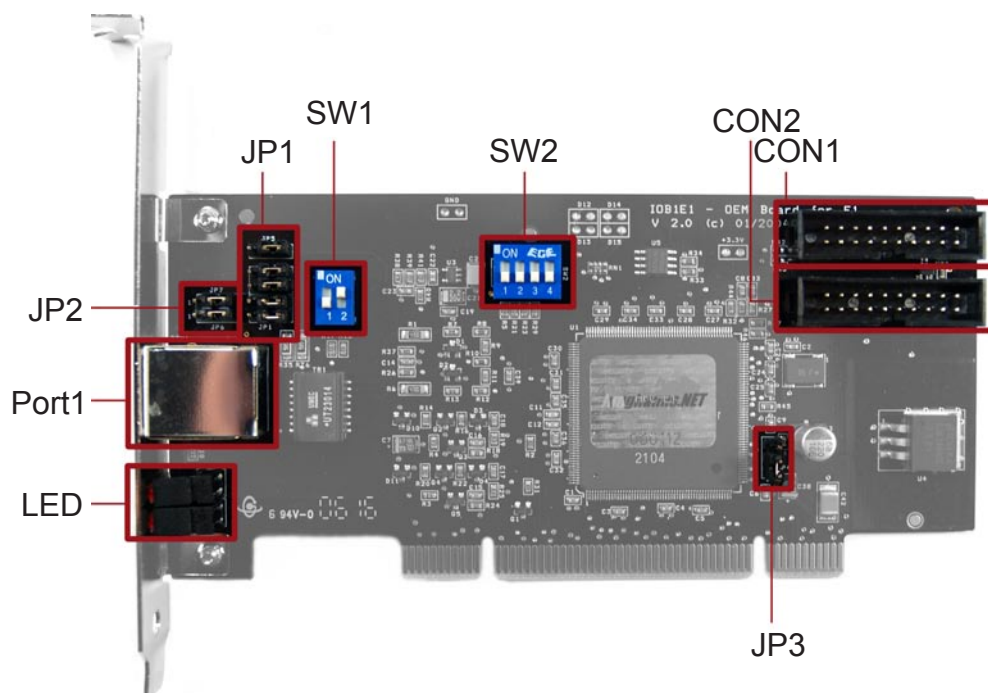
NT/TE settings port X	
JP1-4	







Status LED	
LED	



Termination of S/T interface port X (100Ω)	
SW1-4	
Card ID switches	
SW5	



miniPCI connector	
CON1	Connector for the miniPCI card
CON2	Connector for the RJ45 board
CON3	Connector for the RJ45 board

6.1.12 Junghanns.NET singleE1 PCI



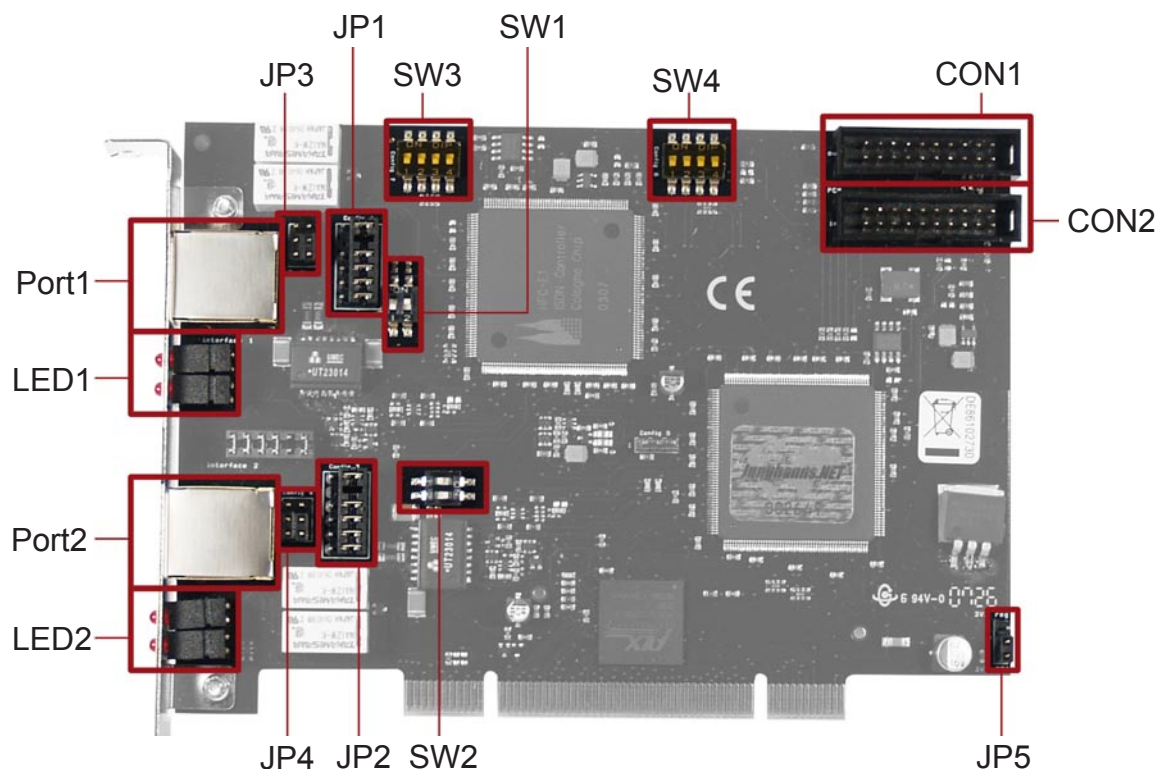
NT/TE settings port X		
JP1		Set all jumpers to the right to select NT mode for port X
		Set all jumpers to the left to select TE mode for port X
Pinout		
JP2		E1 Pinout (1,2,4,5)
		S2M Pinout(3,4,5,6)
Power supply configuration		
JP3		Uses 3.3V from the PCI bus (only available in 3.3V PCI slots)
		Generates 3.3V out of the 5V from the PCI bus (factory default)

Status LED's for port X	
LED1-2	1  2  1, 2 = Framing
	3  4  3, 4 = CRC4 Multiframing  established  not established

Termination of interface port X	
SW1	 Right switch: ON Termination 75 Ω
	 Right switch: OFF Termination 120 Ω
Card ID switches	
SW2	Use DIP switches 1 to 3 to set the card ID (very useful for remotely identifying individual cards):
	Card-ID 0 1 2 3 4 5 6 7
	SW2_1 OFF ON OFF ON OFF ON OFF ON
	SW2_2 OFF OFF ON ON OFF OFF ON ON
	SW2_3 OFF OFF OFF OFF ON ON ON ON



CON1	PCM out
CON2	PCM in

6.1.13 Junghanns.NET doubleE1 PCI



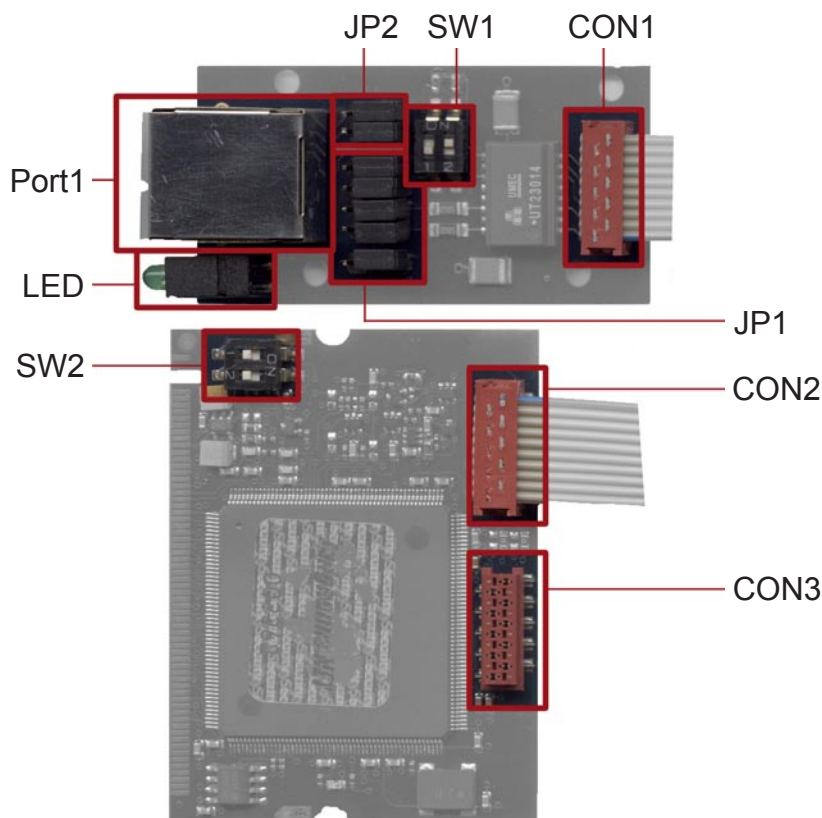
NT/TE settings port X	
JP1-2	<div> Set all jumpers to the right to select NT mode for port X </div> <div> Set all jumpers to the left to select TE mode for port X </div>
Pinout	
JP3-4	<div> E1 Pinout (1,2,4,5) </div> <div> S2M Pinout(3,4,5,6) </div>
Power supply configuration	
JP5	<div> Uses 3.3V from the PCI bus (only available in 3.3V PCI slots) </div> <div> Generates 3.3V out of the 5V from the PCI bus (factory default) </div>

Status LED's for port X	
LED1-2	<div> 1, 2 = Framing 3, 4 = CRC4 Multiframing </div> <div> established not established </div>



		Termination of interface port X							
SW1-2		Right switch: ON Termination 75 Ω							
			Right switch: OFF Termination 120 Ω						
Card ID switches									
SW3-4	Use DIP switches 1 to 3 to set the card ID (very useful for remotely identifying individual cards):								
	Card-ID	0	1	2	3	4	5	6	7
	SW3_1	OFF	ON	OFF	ON	OFF	ON	OFF	ON
	SW3_2	OFF	OFF	ON	ON	OFF	OFF	ON	ON
	SW3_3	OFF	OFF	OFF	OFF	ON	ON	ON	ON

CON1	PCM out
CON2	PCM in

6.1.13 Junghanns.NET singleE1 miniPCI



NT/TE settings port X	
JP1	<div> <p>Set all jumpers to the right to select NT mode for port X</p> </div> <div> <p>Set all jumpers to the left to select TE mode for port X</p> </div>
JP2	<div> <p>E1 Pinout (1,2,4,5)</p> </div> <div> <p>S2M Pinout(3,4,5,6)</p> </div>
LED	Status LED

Termination of interface port X																
SW1	<div></div> <div>Right switch: ON Termination 75 Ω</div> <div></div> <div>Right switch: OFF Termination 120 Ω</div>															
Card ID switches																
SW2	Use DIP switches 1 to 2 to set the card ID (very useful for remotely identifying individual cards): <table><tr><th>Card-ID</th><th>0</th><th>1</th><th>2</th><th>3</th></tr><tr><td>SW2_1</td><td>OFF</td><td>ON</td><td>OFF</td><td>ON</td></tr><tr><td>SW2_2</td><td>OFF</td><td>OFF</td><td>ON</td><td>ON</td></tr></table>	Card-ID	0	1	2	3	SW2_1	OFF	ON	OFF	ON	SW2_2	OFF	OFF	ON	ON
Card-ID	0	1	2	3												
SW2_1	OFF	ON	OFF	ON												
SW2_2	OFF	OFF	ON	ON												

CON1	miniPCI connector
	Conenctor for the miniPCI card
CON2	Connector for the RJ45 board
CON3	PCM Connector