Smartpanel

User Manual

A00

10-002HB01EG

CONTENT

1 Preface

Thank you for choosing a Riedel product.

This PDF document provides detailed information about the Riedel Smartpanel, especially pin outs, mechanical and electrical data.

This manual is available in additional formats:

CHM "Compiled HTML Help" is the standard format for Windows online help and .Net applications
EPUB "Electronic Publishing format" is a cross-platform e-book standard

For further information, please refer to the Riedel Website or contact your local distributor or the Riedel headquarters in Wuppertal.

10-002HB01EG-A00
Smartpanel User Manual

1.1 Information

Symbols

The following tables are used to indicate hazards and provide cautionary information in relation to the handling and use of the equipment.

Danger
 Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.
The highlighted line indicates the activity to prevent the danger.

Warning
 Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.
The highlighted line indicates the activity to prevent the danger.

Caution
 Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.
The highlighted line indicates the activity to prevent the danger.

	This text is for generally information. It indicates the activity for ease of work or for better understanding.

Service

- All service has to be undertaken ONLY by qualified service personnel.
- There are no user serviceable parts inside the devices.
- Do not plug in, turn in or attempt to operate an obviously damaged device.
- Never attempt to modify the equipment components for any reason.

Caution
 **All adjustments have been done at the factory before the shipment of the devices. No maintenance is required and no user serviceable parts are inside the module.**

Voltage

- The power cable should only be connected to a correctly grounded source.
- Do not use any adapters.
- Never bypass a ground contact.

Danger
 **To reduce the risk of electric shock do not remove cover or expose the products to rain or moisture.**

Warning	
	Laite on liitettävä suojakoskettimilla varustettuun pistorasiaan.
	Apparatet må tilkoples jordet stikkontakt.
	Apparaten skall anslutas till jordat uttag.

Environment

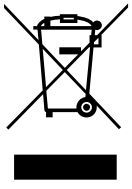
- Never place the devices in an area of high dust particles or humidity.
- Never place containers with any liquids on top of the devices.
- If the devices have been exposed to a cold environment and transferred to a warm environment, condensation may form inside the housing. Wait at least 6 hours before applying any power to the devices.
- Operating temperature of the devices: 0°C ... +50°C.

Ventilation

- Do not place the devices next to a hot source like a radiator.
- The ventilation openings of the devices must never be blocked.

Disposal

Disposal of old Electrical & Electric Equipment (Applicable throughout the European Union and other European countries with separate collection programs)

	This symbol, found on your product or on its packaging, indicates that this product should not be treated as household waste when you wish to dispose of it. Instead, it should be handed over to an applicable collection point for the recycling of electrical and electronic equipment. By ensuring this product is disposed of correctly, you will help prevent potential negative consequences to the environment and human health, which could otherwise be caused by inappropriate disposal of this product. The recycling of materials will help to conserve natural resources. For more detailed information about the recycling of this product please contact your local city office.

CE Declaration of Conformity

CE	The devices conform to the EU guideline EMC 2004 / 108 / EC, Low - Voltage 2006 / 95 / EC as attested by the CE mark.

1.2 About Smartpanel

Riedel's new RSP-2318 Smartpanel is the world's first key panel designed as a powerful multifunctional user interface that will enrich your user experience and change the way you communicate.

The unique feature set includes high-resolution, sunlight readable, multi-touch color displays, 18 keys in 1RU, premium quality stereo audio, as well as a multi-lingual character set, making this new Smartpanel the best in its class. Through apps, the feature set of this multifunctional user interface can be expanded.

Offering AES67 and AVB connectivity as standard, and optionally AES3 over CAT/Coax (through the option slot), Riedel's RSP-2318 Smartpanel provides exchangeable headset connectors for mono or stereo applications, integrated power supply, low mounting depth, individual volume controls for each key, 2 USB ports, 2 Ethernet connectors, GPIO, Audio I/O, option slot, a removable gooseneck microphone, and HDMI future support.

Developed to embody apps, including intercom, the RSP-2318 Smartpanel provides an intuitive and flexible user interface that can handle multiple tasks.

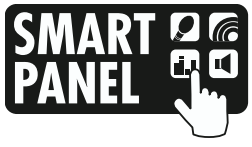
In the same ways that smartphones have enriched user experiences from traditional mobile phones, the Riedel RSP-2318 Smartpanel will bring your workflow to a whole new level.

Needless to say, the RSP-2318 Smartpanel provides backwards compatibility and thus can be integrated in any existing Riedel installation, allowing for smooth interoperability between all Riedel intercom systems, such as Artist, Tango, and Performer.

With the "BASIC"" app, users have 12 intercom keys and connectivity to RAVENNA/AES67 or AVB.
The "PLUS" app also has 12 intercom keys and adds an analog audio port for 4-wire integration, three GPI/O's and the ability to connect an independent second headset.
The "PRO" app has 18 intercom keys, two analog audio ports for 4-wire integration, two headset connectors and three GPI/O's.
Riedel's intercom app can be quickly and easily upgraded to the desired edition, without changing any hardware components.

What's a Smartpanel?

It's an open app-based user interface, with integrated multi-touch technology designed to bring your workflow to a whole new level.



Riedel Smartpanel - Key Features

- Open platform for applications
- 18 keys
- Smartphone integration
- High-resolution, sunlight-readable displays
- Individual volume control
- Intuitive touch-screen UI
- Integrated power supply

Riedel Smartpanel - Key Benefits

- Compatible with all Riedel Intercom Matrix solutions
- Expandable feature set
- Universal Control Panel

1.3 Audiopatch

All panel types that are operated with a Tango with the firmware version 1.0 and the Pulse software version 1.0 are preconfigured with static audio patches, which cannot be modified. This functionality will be enabled in a future version of Tango and Pulse.

There are two audio patches preconfigured that can be toggled by the headset key on the panel.
The following tables and figures are illustrating the preconfigured audio patches.

Speaker Mode

Source	Sink
Panel Mic	Matrix Ch1
Audio In A	
External Mic	Matrix Ch2
Audio In B	
Matrix Ch1	Speaker
	Audio Out A
Matrix Ch2	External Out
	Audio Out B

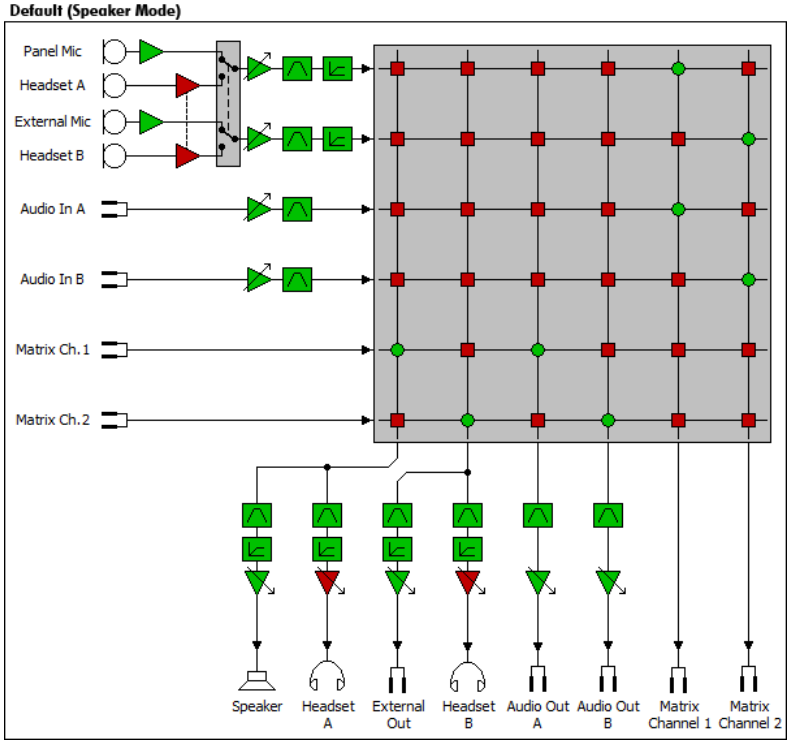


Figure 1: Audiopatch Speaker Mode

Headset Mode

Source	Sink
Headset A	Matrix Ch1
Audio In A	
Headset B	Matrix Ch2
Audio In B	
Matrix Ch1	Headset A
	Audio Out A
Matrix Ch2	Headset B
	Audio Out B

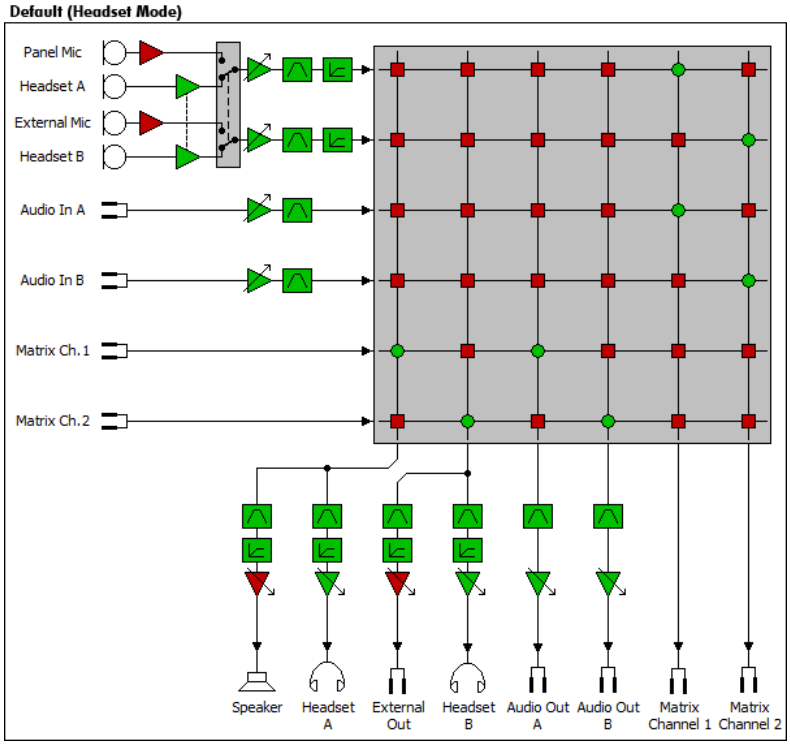


Figure 2: Audiopatch Headset Mode

2 Smartpanels

2.1 RSP-2318

Figure 3: RSP-2318 (front view)

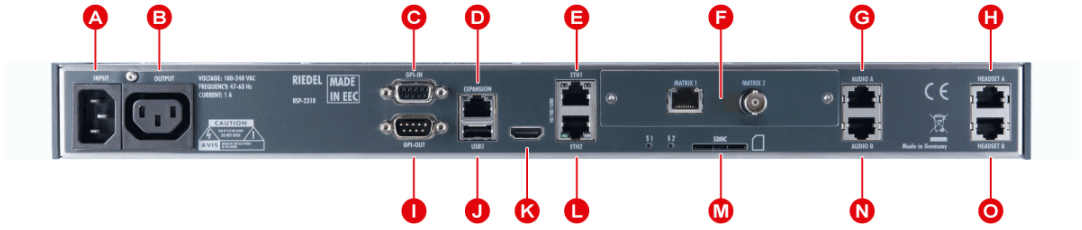


Figure 4: RSP-2318 (rear view)

1	Panel Microphone Connector	1x
2	Keys	18x
3	Displays	3x
4	Rotary Encoder with Push Button	1x
5 J	USB Connector (front and rear)	2x
6	Speaker / Air Filter	1x / 1x
7 H O	Headset Connector (front and rear)	3x
8	Functional Keys (Shift-Page / Menu / Headset)	3x
A	Power Supply (mains input)	1x
B	Power Supply (mains output to next panel, max. 6A)	1x
C	GPI Connector (inputs)	3x
D	Expansion Connector	1x
E	Matrix Connector (AVB / AES67 / VoIP) - Ethernet Port	1x
F	Option Card Slot [1]	1x
G N	Analog Audio (inputs and outputs)	2x
I	GPI Connector (outputs)	3x
K	HDMI Connector (future use)	1x
L	Ethernet Port (not used)	1x
M	SD Card Slot	1x

[1] equipped with optional SPX-AES interface for the connection via AES3 (CAT/COAX).

i	This panel can be operated either via the internal AES67/AVB interface or via the optional SPX-AES interface. Do not connect both interfaces simultaneously.

All Ports and Pinouts can be found in chapter Ports / Pinouts.

An overview about all Status indicators can be found in chapter Status LEDs.

Reset

The following method will reset the panel (warm start):

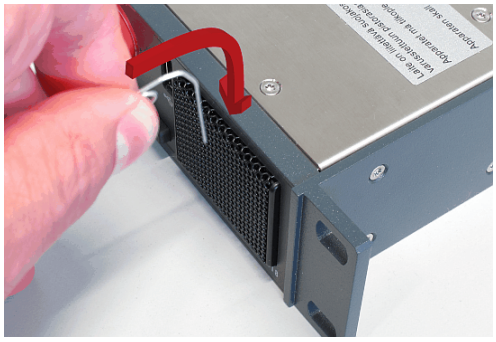
➢ Push simultaneously the 3 functional keys
Shift-Page , Menu and Headset on the front side.

Replacing the Air Filter

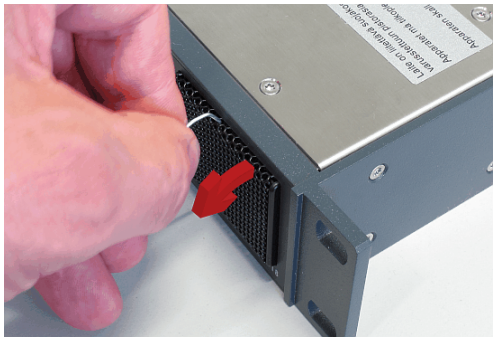
The air filter is located in the grille in front of the speaker.

➢ Insert carefully a small tool, e.g. a paper clip, in a hole on the upper side of the grille.

Take care to avoid inserting the tool too deep into the panel.

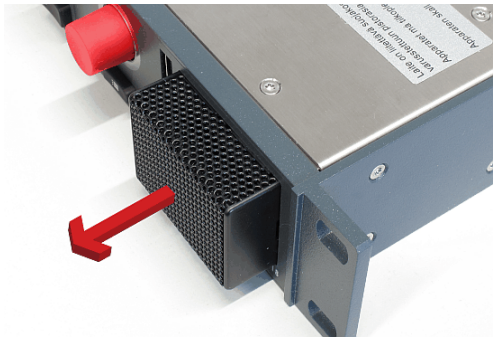


➢ Pull the grille carefully a bit outside.

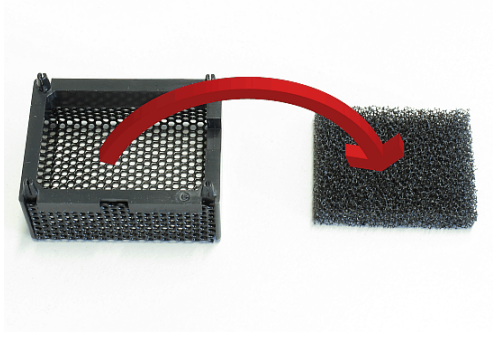


➢ Repeat this step on the bottom side.

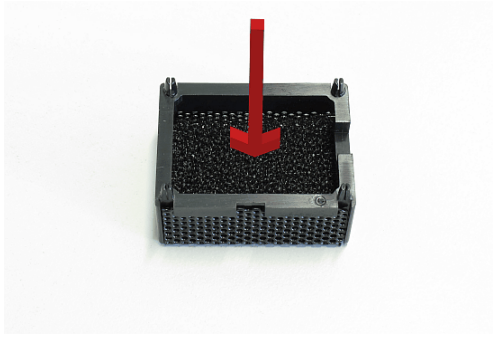
- Pull the grille out of the panel.



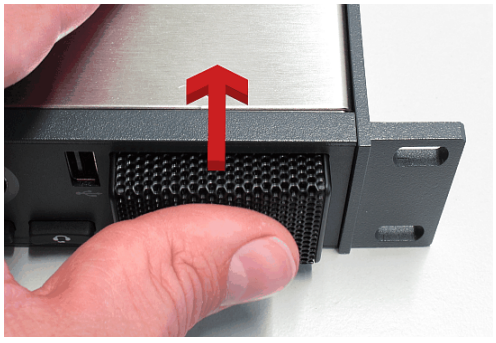
- Remove the air filter out of the grille.



- Push the new/cleaned air filter in the grille.



- Slide the grille carefully back into the panel and push it in evenly.



2.2 Status LEDs

Figure 5: RSP-2318 (front status LED positions)

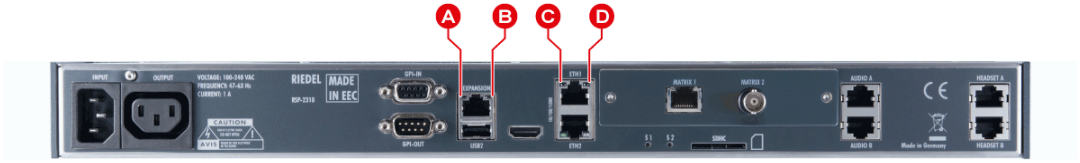


Figure 6: RSP-2318 (rear status LED positions)

The meaning of the Status LEDs in normal operation is listed in the following table:

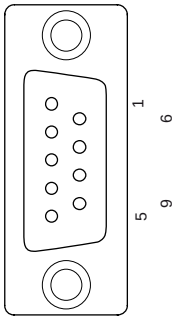
1	**Panel Microphone**	**white**	Panel microphone active, Headset deactivated
		off	Headset active, Panel microphone deactivated
2	**Headset**	**white**	Headset active, Panel microphone and Panel speaker deactivated
		off	Panel microphone and Panel speaker active, Headset deactivated
3	**LED Ring**	**white**	indicates the volume level
4	**Shift-Page**	**white**	Shift-Page activated
		off	Shift-Page deactivated
5	**Menu**	**white**	Menu activated
6	**Headset**	**white**	Headset active, Panel microphone and Panel speaker deactivated
		off	Panel microphone and Panel speaker active, Headset deactivated
A	**Expansion (left)**	**orange**	link to the Expansion Panel present
		off	no link
B	**Expansion (right)**	**yellow**	activity
		off	no activity
C	**ETH1 (left)**	**green**	activity
		off	no activity
D	**ETH1 (right)**	**yellow**	100 Mbit/s link to the Intercom Network present
		green	1 Gbit/s link to the Intercom Network present
		off	no link

2.3 Ports / Pinouts

In this chapter, all Ports / Pinouts of the Smartpanel are shown.

GPI IN port

The GPI input connector contains 3 single ports.



Pin	Signal	Pin	Signal
1	GP-IN1-P	6	GP-IN1-N
2	GP-IN2-P	7	GP-IN2-N
3	GP-IN3-P	8	GP-IN3-N
4	GPIO +5V	9	GND
5	Chassis	Chassis	Chassis

Figure 7: GPI IN connector Sub-D-9 female pinout

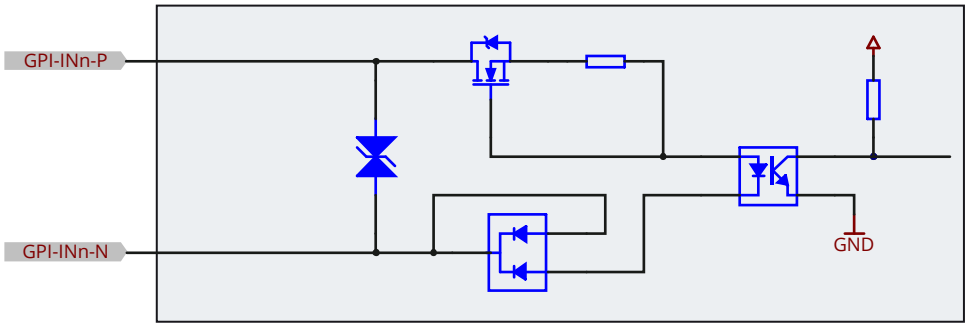
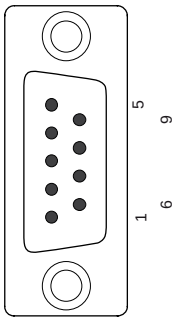


Figure 8: GPI IN connector schematic

- The "GPIO +5V" output voltage supplies 50 mA maximum.
- The input voltage range of the GPI inputs is +5 to +48 VDC (~5 mA current draw, internal optocouplers).
- The polarity of the inputs is important. The higher potential must be connected to “P” of each channel.
- The inputs are galvanically isolated.

GPI OUT port

The GPI output connector contains 3 single ports.



Pin	Signal	Pin	Signal
1	GP-OUT1-P	6	GP-OUT1-N
2	GP-OUT2-P	7	GP-OUT2-N
3	GP-OUT3-P	8	GP-OUT3-N
4	--	9	--
5	Chassis	Chassis	Chassis

Figure 9: GPI OUT connector Sub-D-9 male pinout

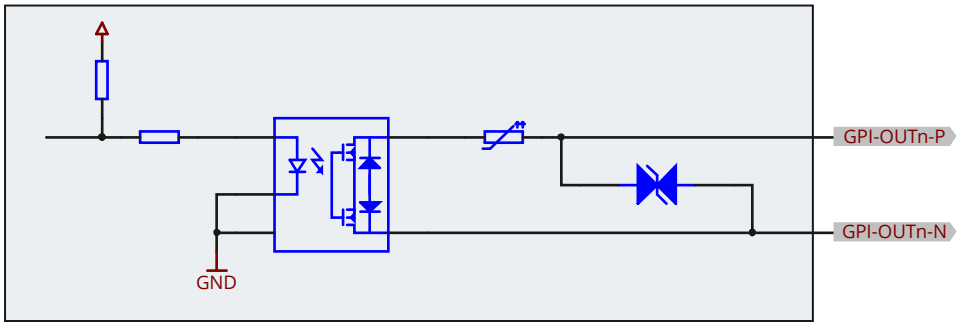
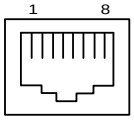


Figure 10: GPI OUT connector schematic

- The GPI output contact rating is 300 mA, 60 VDC maximum (protected by self-healing fuse).
- The polarity of the output has no preference.
- The outputs are galvanically isolated.

Expansion port

The Expansion connector is used to connect Expansion Panels.

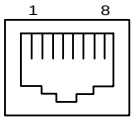


Pin	Signal	Standard color
1	TX+	orange/white
2	TX-	orange
3	RX+	green/white
4	--	blue
5	--	blue/white
6	RX-	green
7	--	brown/white
8	--	brown

Figure 11: Expansion connector RJ-45 pinout (8P8C)

ETH port

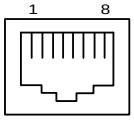
The ETH (Ethernet) connector is used to connect an intercom network (AVB / AES67).
The ETH ports are 100/1000Base-T compatible.



Pin	Signal	Standard color
1	BI_DA+	orange/white
2	BI_DA-	orange
3	BI_DB+	green/white
4	BI_DC+	blue
5	BI_DC-	blue/white
6	BI_DB-	green
7	BI_DD+	brown/white
8	BI_DD-	brown

Figure 12: ETH connector RJ-45 pinout (8P8C)

Audio connector



Pin	Signal	Standard color
1	--	orange/white
2	--	orange
3	--	green/white
4	AIO-RX-P	blue
5	AIO-RX-N	blue/white
6	--	green
7	AIO-TX-P	brown/white
8	AIO-TX-N	brown

Figure 13: Audio connector RJ-45 pinout

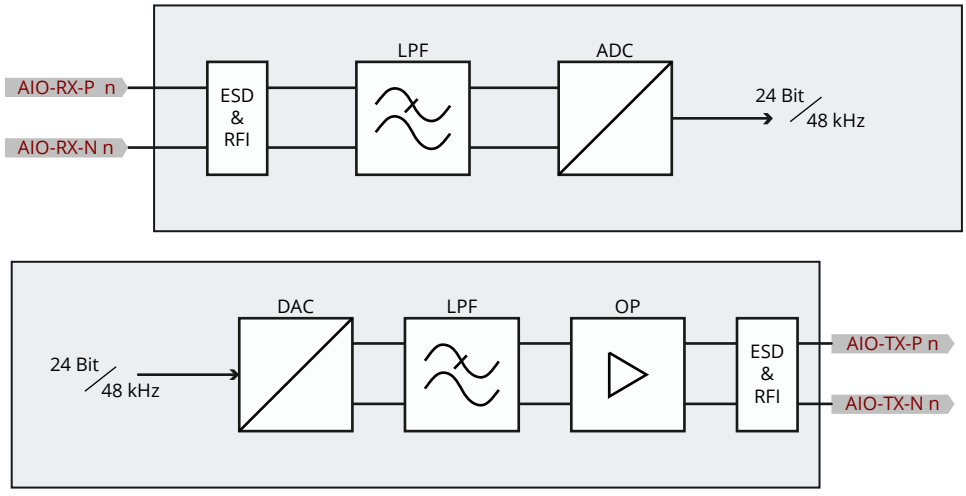
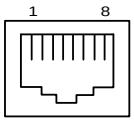


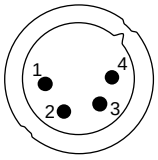
Figure 14: Audio connector block diagram

Headset connector



Pin	Headset A	Headset B
1	HS Phones A + (right)	HS Phones B + (right)
2	GND	GND
3	Data A	Data B
4	HS MIC A + , (+5 VDC)	HS MIC B + , (+5 VDC)
5	HS MIC A - , (GND)	HS MIC B - , (GND)
6	PTT A	PTT B
7	HS Phones A + (left)	HS Phones B + (left)
8	GND	GND
Case	Chassis	Chassis

Figure 15: Headset connector RJ-45 pinout



Pin	Headset
1	HS MIC A - , (GND)
2	HS MIC A + , (+5 VDC)
3	GND
4	HS Phones A + (left)

Figure 16: Headset connector XLR 4 male pinout

The microphone power (+5 VDC) will be switched on/off according to the setting in the Pulse software.

2.4 Technical Specifications

Level	Nominal Input	+6 dBu
	Nominal Output	+6 dBu
	Maximum Input = 0 dBFS	+18 dBu
	Maximum Output= 0 dBFS	+18 dBu
Frequency Response	Panel MIC / HS MIC A & B (electret)	<20 Hz ... >8 kHz, -3 dB <8 kHz ... >20 kHz, -6 dB
	HS MIC A & B (dynamic)	
	HS Phones	<20 Hz ... >20 kHz, -0.5 dB
	Audio A & B Input	
	Audio A & B Output	
Distortion THD+N	Panel MIC / HS MIC A & B (electret)	<0.95 %, 20 Hz ... 200 Hz <0.10 %, 200 Hz ... 20 kHz (<0.02 % @ 1 kHz)
	HS MIC A & B (dynamic)	<0.95 %, 20 Hz ... 200 Hz <0.25 %, 200 Hz ... 20 kHz (<0.05 % @ 1 kHz)
	HS Phones	<0.001 %, 200 Hz ... 20 kHz (<0.007 % @ 1 kHz)
	Audio A & B Input	<0.009 %, 200 Hz ... 20 kHz (<0.008 % @ 1 kHz)
	Audio A & B Output	<0.008 %, 200 Hz ... 20 kHz (<0.0075 % @ 1 kHz)
Sample Rate	48 kHz	
Bit Resolution	24 Bit	
Power	Input Voltage	100 ... 240 VAC
	Input Frequency	47 ... 63 Hz
	Consumption	≤ 30 W
Dimensions	Width	483 mm / 19" (446 mm / 17.6") *1
	Height	44 mm / 1 RU
	Depth	79 mm / 3.1"
Weight	5.5 kg	
Operating Environment	Temperature	0° ... +45°C
	Humidity	20 % ... 90 % rel. (non-condensing)

*1 without mounting ears

3 Appendix

3.1 Maintenance Recommendations

Following points are strongly recommended to prevent malfunction of the system.

General

- Check if all fans are running (status and error messages are shown in the Pulse Software).

Daily

Weekly

None

Monthly

- Check fan dust filters and exchange them if necessary.

Yearly

None

Other

- Every three years, the fan filters should be exchanged due to an aging process even if they are not dusty or if the system was not in operation.

3.2 Service

If you have any further questions, we offer comprehensive customer service options for this product including:

- Telephone Service
- Email Service
- Skype Service
- Fax Service
- Configuration Support
- Trainings
- Repair

Your primary point of contact for any service issues is your local dealer.
In addition, Riedel Customer Service in Wuppertal, Germany is also available to assist you.

Telephone: +49 (0) 202 292 9400
(Monday - Friday, 8am – 5pm, Central European Time)

Fax: +49 (0) 202 292 9419

Skype: riedel.communications.service

Or use the contact form on our website:
www.riedel.net > Company > Riedel Communications > Contact > Wuppertal (Headquarters)

For repairs, please contact your local dealer. Your dealer will be able to help process your repair as fast as possible and/or arrange for the delivery of spare parts.

The address for repairs sent directly to Riedel Communications GmbH is:

Riedel Communications GmbH & Co. KG
- Repairs -
Uellendahler Str. 353
D-42109 Wuppertal
Germany

Please add a completed repair form to all your repairs.
The form can be found at the Riedel website:
www.riedel.net > Company > Services > Support > Contact

3.3 Notes

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