

Intercom/Interpreter Unit AID-6



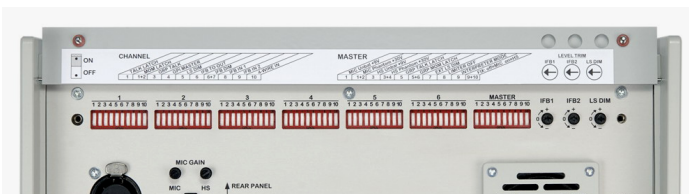
AID-6 manages up to 6 talkback connections and provides 2 IFB inputs.

Alternatively it can be used as an interpreter unit providing 4 talkback connections.

AID-6 is designed for the use with reportage- und SNG-units, for mobile broadcast setups and studio applications.

Its compact design, state of the art technology and sophisticated configuration features make it a number one choice for all applications.

A cover on the front panel hides switches and trimmer potentiometers which are used for setting up the unit. When closed after configuration, easy handling and safe operation are guaranteed.



configuration details



2 rear connector versions:
XLR (shown above) and EDAC 56pole

Contents

- 1. Important Notes and Safety Instructions..... 3**
- 2. Scope of Delivery 4**
- 3. Connection 5**
 - 3.1. Power Supply.....5
 - 3.2. Audio5
 - 3.2.1. Microphone Inputs.....5
 - 3.2.2. Headphones Output.....5
 - 3.2.3. Other Audio Inputs and Audio Outputs5
 - 3.3. Control ports GPI Out/REMOTE.....6
 - 3.4. Lamp Supply/USB6
- 4. Basic Functions 7**
 - 4.1. Configuration.....7
 - 4.2. Talk8
 - 4.2.1. Connecting Microphones8
 - 4.2.2. Connecting to a Remote Unit.....9
 - 4.2.3. TALK Function/TALK Button9
 - 4.3. Listen10
 - 4.3.1. Connection to a Remote Unit.....10
 - 4.3.2. Channel LISTEN Volume Control.....10
 - 4.3.3. Channel Modulation Indication/CALL Indication10
 - 4.3.4. Listen with the Internal Loudspeaker10
 - 4.3.5. Listen with Headphones/Headset.....10
 - 4.3.6. Listen with External Monitor10
- 5. Enhanced Functions 11**
 - 5.1. IFB/Interrupted Foldback.....11
 - 5.1.1. Gain Setting11
 - 5.1.2. Assigning to Channels.....11
 - 5.1.3. IFB Monitoring11
 - 5.2. Channel Input to Channel Output Feed.....12
 - 5.3. Audio Output MIC AMP OUT PERMANENT.....12
 - 5.4. GROUP TALK12
 - 5.5. Control Output MASTER GPI OUT.....13
 - 5.6. Control Output GPI OUT/REMOTE OUT13
- 6. INTERPRETER MODE..... 14**
- 7. Connectors/Pin-Out..... 15**
 - 7.1. Audio-Inputs/Audio-Outputs15
 - 7.2. Control Ports GPI OUT/REMOTE OUT16
 - 7.3. Lamp Supply/USB17
 - 7.4. Power Supply.....17
 - 7.5. EDAC 56 pole overall pin-out18
- 8. Block Diagrams 19**
- 9. Technical Data..... 22**
- 10. Measures and Weights..... 24**

1. Important Notes and Safety Instructions

Before unpacking and operating the equipment read these Notes and Safety Instructions carefully.

More notes and instructions can be found in the following chapters of this manual. Follow all notes and instructions.

The term „equipment“ stands for the AID-6 unit as well as the provided power supply.

- 1.1. The equipment must only be used for the purpose described in this manual.
- 1.2. Keep the manual for further reference. When passing the equipment on, enclose the manual.
- 1.3. Do not operate the equipment at
 - very high air humidity (>85% relative humidity)
 - high ambient temperature (>40°C) or in the vicinity of heat radiating equipment or objects
 - places which are exposed to solar radiation
 - at very low temperatures (<5°C)
- 1.4. Ensure appropriate air ventilation.
- 1.5. Do not block the ventilation slots of the equipment. Keep free a minimum of 20mm around the equipment.
- 1.6. Do not store the equipment at temperatures below -20°C or above +50°C.
- 1.7. Do never expose the equipment to environmental conditions which can lead to the incidence of condensation water.
- 1.8. Do not expose the equipment to mechanical stress or shock.
- 1.9. Ensure that liquids cannot get into the equipment.
- 1.10. Ensure that foreign objects cannot get into the equipment.
- 1.11. Only clean the equipment with smooth cleaning tissues and soft detergents.
- 1.12. Never open the equipment.
- 1.13. Only operate the unit with the provided power supply. When operating with other power supplies, warranty will be void.
- 1.14. In case the equipment has been dropped or there is any external or functional damage, do not continue to operate the equipment. Have the equipment checked at your dealer's workshop or a person who is qualified to do such checks.
- 1.15. Only connect the equipment to a legally approved, earthed, mains power supply.
- 1.16. In case of any damage of mains cable or power supply there is the risk of a perilous electrical shock! Replace the mains cable immediately. Have the power supply checked or replace it. Regularly check mains cable and power supply for any damage.
- 1.17. When shipping use a package which protects the equipment from environmental impact such as mechanical shock or humidity.
- 1.18. The equipment applies to EU directives RoHS and WEEE. Disposal has to be carried out according to WEEE. As this equipment is classified as professional equipment for industrial use (B2B), manufacturer and purchaser conclude the following agreement: According to ElektroG §10 Abs. 2 Satz 3 (ref. to German/EU law) the manufacturer takes over the disposal if the purchaser sends back the equipment at his own expense. Alternatively the purchaser disposes of the equipment according to WEEE at his own expense. In case the purchaser passes on or sells the equipment, this agreement has to be passed on. Manufacturer WEEE register number: DE 90586269

- 1.19. Manufacturer's warranty covers the equipment to be free from defects of quality at the time of delivery for a period of 24 month presumed that
- the equipment was treated properly according to its intended use
 - all information and safety instructions given in this manual have been followed
 - the equipment shows no external damage
 - the equipment is shipped to the manufacturer or to an authorised repair-shop free of charge
 - a proof of purchase is supplied
 - a detailed failure description is supplied
- The manufacturer takes over cost of parts and labour incurred by repair.
Any other costs including shipping and packaging will be charged.
- 1.20. We expressly exclude any liability for incidental or consequential damages which might arise from operating the equipment, including failure of the equipment.
- 1.21. All information in this manual has been carefully reviewed. It has been updated at the time of passing for press. Nevertheless we do not take over any liability for sufficiency or errors.
- 1.22. EEC Declaration of Conformity: The equipment applies to applicable EMC rules 89/336/EEC.



2. Scope of Delivery

- 2.1. Unit AID-6 (XLR-version or EDAC-version)
- 2.2. Power Supply
- 2.3. Mains Cable (not for all countries)
- 2.4. Manual

3. Connection

3.1. Power Supply

- 3.1.1. Plug the 4pole XLR connector which is mounted to the cable fixed to the power supply into one of the 4pole XLR connectors designated "POWER IN" on the back panel of the AID-6 unit.
- 3.1.2. Using the AID-6 EDAC version alternatively plug the 4pole XLR connector which is mounted to the cable fixed to the power supply into the 4pole XLR connectors designated "POWER IN" on the AID-6 I/O Extension Unit (available as accessory equipment).
- 3.1.3. Connect the power supply to a correctly earthed mains power socket. You may connect the power supply to 100-240VAC at 47-63Hz mains voltage without the need of selecting a voltage range.

Important Note: Always connect the power supply in the order described above. Otherwise there is a risk of damaging the power supply and/or the unit.

- 3.1.4. AID-6 units provide two power inputs. You can connect two power supplies at the same time in order to ensure a fail-safe operation. If power at one of the inputs fails, the other one will take over.
- 3.1.5. 12V-24V regulated DC is allowed at the power inputs. We deliver power supplies within this voltage range. You can connect power supplies with differing voltages at the same time. The one with the higher voltage supplies the unit. If it fails, the one with the lower voltage will take over.

3.2. Audio

3.2.1. Microphone Inputs

The microphone inputs are suitable for input levels from -65dBu to -20dBu. Depending on the input configuration they are transformer-balanced, transformer-balanced with 30V phantom power or unbalanced with 9V AB-powering.

Important Note: Before connecting a microphone always check if the input configuration on your AID-6 complies with the microphone data. In case of incompatibility there is a risk of damaging your microphone.

3.2.2. Headphones Output

The Headphones output delivers voltages up to 10Veff.

Important Note: Always set the phones level potentiometer labelled „HEADSET“ to minimum (fully counter-clockwise) before you connect your headphones. Otherwise there is a risk of damaging your ears by high sound pressure level. Furthermore there is a risk of damaging your headphones.

3.2.3. Other Audio Inputs and Audio Outputs

All other audio inputs and audio outputs are transformer balanced and designed to a reference level of +6dBu and maximum levels of +18dBu (typ.).

Important Note: Connecting DC exceeding 1V is not allowed and can lead to damages inside the unit.

3.3. Control ports GPI Out/REMOTE

All control outputs are designed to be interfaced with 5V logic circuitry.

Important Note: Connect DC in the 0-5V range to the control inputs only. Control outputs may only be connected to circuits which operate in the 0-5V DC range. Never connect any supply voltage directly to a control output. Refer to chapter „Technical Data“ to find information about maximum allowable current. Exceeding any limits can cause damage on the unit or the circuitry you connect.

Refer to chapter „Technical Data“ for more details about circuitry and connection.

3.4. Lamp Supply/USB

On the front panel at the right hand of the loudspeaker there is a USB Type A socket designated “DC ONLY”. It serves exclusively for supplying a standard 5V LED Lamp with USB connector (commercially available with gooseneck).

Important Note: Never connect any other equipment. Especially never connect a PC or PC peripheral equipment to this USB socket. There is the danger of damage to your AID-6 as well as the connected equipment.

More details about technical data, functions and connector pin-outs are specified in the following chapters of this manual.

4. Basic Functions

This chapter is dedicated to basic functions only. When you work with AID-6 for the first time, we recommend setting all pushbutton switches on the front panel to the idle (not depressed) position. Turn speaker and headset volume controls to minimum (counter-clockwise position).

Enhanced functionality and comprehensive configuration are described in the following chapter.

4.1. Configuration

All configuration switches are accessible on the front panel, normally hidden behind a cover. For access loosen the two knurled head screws on the left and right end of the cover and flap it up.

On the inside of the cover you find labels with short descriptions of the switch functions.

There are 7 switch arrays. Respectively one array per channel „CHANNEL CONFIGURATION“ and one for global settings „MASTER CONFIGURATION“.

The rocker switches are off, when they are actuated to the lower position; they are on, when they are actuated to the upper position.

On the right there are 3 configuration trimmer potentiometers. Normal working position complies to the shown arrow position.

When you get started with AID-6 and this manual, we assume that all configuration switches are in the off position and all configuration trimmers are in the normal working position.



Important Note: Interpreter Mode has impact on a number of basic functions described below.

Hence we strongly recommend to get acquainted with all basic functions first.

When you then study INTERPRETER MODE as a second step, all special functions are easy to associate.

4.2. Talk

4.2.1. Connecting Microphones

You can select between two microphone inputs.

- MIC: 3pole XLR socket on the front panel (labelled MIC).
- HEADSET: 5pole XLR socket (labelled HEADSET) on the back panel.

Use the latching pushbutton switch labelled SELECT located to the right of the MIC XLR input on the front panel to either select MIC or HEADSET (labelled HS on the front panel).

Your selection is indicated by one of the Input Selection LEDs above the SELECT switch.

Perform a configuration setup for the input you want to use before connecting your microphone. Refer to the MASTER CONFIGURATION switch array.

Switches 1 and 2 are assigned to MIC input, switches 3 and 4 are assigned to HEADSET input.

MIC configuration

- 1 and 2 off: transformer-balanced input
 - 1 on, 2 off: unbalanced input with 9V AB-powering
 - 1 and 2 on: transformer-balanced input with 30V phantom power
- (Switch position 1 off, 2 on is not defined, same evaluation as 1 and 2 off.)

HEADSET configuration

- 3 and 4 off: transformer-balanced input
 - 3 on, 4 off: unbalanced input with 9V AB-powering
 - 3 and 4 on: transformer-balanced input with 30V phantom power
- (Switch position 3 off, 4 on is not defined, same evaluation as 3 and 4 off.)

Note 1: Switching from MIC to HEADSET or vice versa can lead to high level switching noise especially when the input configuration is differing, e.g. if you switch from transformer-balanced input with 30V phantom power to unbalanced input with 9V AB-powering. In order to protect you from these noise peaks the microphone signal is muted for about 1 sec. each time you actuate the input switch.

Note 2: When working with headset, usually you will not need the internal loudspeaker. It may be even disturbing, if the speaker is not switched off. The internal logic will switch off the loudspeaker ("CUT" pushbutton indicates red) each time you switch from MIC to HEADSET using the SELECT switch. If you want, you can switch the loudspeaker back on again, even if HEADSET is selected.

Gain Setting

Each input provides its own gain setting right above the respective input selection LED. Set optimum gain on these (trimmer-) potentiometers.

The Input Selection LEDs provide further information:

As described before, the LEDs indicate, which input is selected. Different colours on these LEDs provide level metering as well thus making gain setting comfortable.

Green: Input is selected, post microphone amplifier level is lower than -25dB

Yellow: Input is selected, post microphone amplifier level is higher than -25dB but lower than 0dB

Red: Input is selected, post microphone amplifier level exceeds reference level

(All dB-values are related to the unit's reference level of +6dBu.)

Limiter Configuration

The microphone input amplifier is followed by an integrated limiter circuit. You can switch the limiter off by MASTER CONFIGURATION switch 8 setting.

8 off: Limiter on (Standard)

8 on: Limiter off

Limiter off state is indicated by an LED labelled LIMITER OFF on the front panel.

Limiter Function

If post microphone amplifier level exceeds reference level, the signal is controlled by the integrated limiter circuit (As the limiter provides a soft-knee technique, in fact signals somewhat below reference level are controlled as well.). When the LED indicates red colour, there is an internal headroom of approximately 12dB left. Only if the signal exceeds the headroom, relevant distortion will become audible, though the output level of the limiter will remain nearly stable.

Please consider that a too high gain setting in combination with a limiter can lead to a loss of speech comprehensibility. E.g. background noise may be audible in speech intervals.

We recommend a setting which will make the LED indicate yellow at normal speech level with short red indications at level peaks.

Note: Usually the limiter serves to suppress unattended high level peaks, which often occur in normal intercom use: The operator's voice level and microphone distance vary and there may be high level background noise. When AID-6 is used in INTERPRETER MODE, it is more likely operated in a studio environment. In this case it might be more reasonable to switch off the internal limiter and leave the whole signal processing to a sound engineer on a mixing desk.

4.2.2. Connecting to a Remote Unit

Use one or more channel audio outputs to connect to the remote unit, which you want to talk to. There are six channel audio outputs, designated "4-WIRE AUDIO OUT 1...6". The respective connectors are located on the back panel of the unit, refer to chapter 7.1 Audio Inputs/Audio Outputs.

4.2.3. TALK Function/TALK Button

Push a TALK button on one of the channels to activate the TALK function and talk to a remote unit. The TALK button will indicate red, when TALK function is active.

TALK button switching action can be configured individually by the CHANNEL CONFIGURATION switches:

Configuration of TALK button switching action

CHANNEL CONFIGURATION switch 1 „TALK LATCH“, switch 2 „MOM LATCH“

1 and 2 off: Momentary

1 on, 2 off: Latching

1 and 2 on: combined Momentary/Latching

(Switch position 1 off, 2 on is not defined, same evaluation as 1 and 2 off.)

- Momentary: TALK is active as long as you hold the TALK button in the depressed position.
- Latching: Push once to activate TALK, push again to deactivate TALK.
- Combined Momentary/Latching: Pushing the button short will result in a latching action, pushing the button long will result in a momentary action.

4.3. Listen

4.3.1. Connection to a Remote Unit

Use one or more of the channel audio inputs to connect to the remote unit that you want to listen to. There are six channel audio inputs, designated "4-WIRE AUDIO IN 1...6". The respective connectors are located on the back panel of the unit, refer to chapter 7.1 Audio Inputs/Audio Outputs.

4.3.2. Channel LISTEN Volume Control

Each channel provides a volume control. Centre position can be seen as a default position if your remote unit delivers audio signals at a reference level of +4dBu...+6dBu. In case there are lower levels, the maximum clockwise position of the channel volume control provides 15dB gain.

4.3.3. Channel Modulation Indication/CALL Indication

Incoming audio signals are indicated on the TALK button: If the signal level exceeds -20dBu, the button will light up yellow. The indication is held for about 8 sec. after the signal has been removed in order to clearly signalize short "calls".

As soon as you activate TALK, CALL indication will be cleared at once.

If TALK function and CALL indication are active at the same time, the TALK button will light up orange. While TALK function is active, CALL indication is not held. The indication directly follows the incoming audio signal. It will change to red colour, as soon as modulation is removed.

4.3.4. Listen with the Internal Loudspeaker

Volume control and CUT button are located on the right side of the front panel below the internal loudspeaker.

After powering-up the unit the loudspeaker is switched on, i.e. the CUT button indication is off. Push the CUT button to switch the loudspeaker off, the indication will light up. Pushing the button again will switch the loudspeaker back on, the indication will extinguish.

Note: Loudspeaker CUT function is affected by microphone SELECT (chapter 4.2.1.) and INTERPRETER MODE (chapter 6). Please refer to the respective notes.

The loudspeaker volume control is labelled SPEAKER, use centre position as a default.

DIM function

In order to avoid feedback or to enhance speech comprehensibility you can dim loudspeaker level when TALK function is active.

Whether a TALK function triggers loudspeaker DIM function or not can be set individually on each channel. Put CHANNEL CONFIGURATION Switch 5 „LS DIM“ to the on position to activate DIM function on this channel.

DIM level can be globally adjusted from -6dB to about -30dB by the configuration trimmer potentiometer labelled "LS DIM".

4.3.5. Listen with Headphones/Headset

Plug your headphones or headset into the 5pole XLR socket labelled „HEADSET“ on the back panel. A separate HEADSET volume control is provided on the front panel below the internal loudspeaker. Headphones output is not affected by any settings for loudspeaker monitoring.

4.3.6. Listen with External Monitor

Your AID-6 provides a line output for external monitoring. The audio signal is present at the XLR socket labelled „EXT SPKR OUT“ on the back panel of the unit. It is independent from loudspeaker or headphones settings with one exception:

Setting MASTER CONFIGURATION switch 7 „EXT LS DIM“ to the on position will make the output follow the DIM function of the loudspeaker stage.

5. Enhanced Functions

5.1. IFB/Interrupted Foldback

AID-6 provides 2 independent IFB audio inputs, designated "IFB1 IN" and "IFB2 IN". The respective connectors are located on the back panel of the unit, refer to chapter 7.1 Audio Inputs/Audio Outputs.

5.1.1. Gain Setting

Adjust IFB input gain with configuration trimmer potentiometers „IFB1" and „IFB2". The arrow position on the cover label complies with unity gain (0dB). The configuration trimmers cover a gain range of +/- 12dB.

5.1.2. Assigning to Channels

You can assign the IFB audio signals to each channel output ("4-WIRE OUT").

Setup the respective CHANNEL CONFIGURATION switches 8 and 9:

8 on: IFB 1

9 on: IFB 2

Your selection is indicated on each channel by four LEDs labelled "1" and "2" in green colour.

IFB audio is fed to the channel output depending on the state of the TALK function and your configuration setting of CHANNEL CONFIGURATION switches 6 „IFB TO OUT" and 7 „IFB DIM":

6 and 7 off: Selected IFBs are always present at channel output.

6 on, 7 off: When TALK is active, IFB signals are muted.

6 and 7 on: When TALK is active, IFB signals are dimmed by about 14dB.

(Switch position 6 off, 7 on is not defined, same evaluation as 6 and 7 off.)

5.1.3. IFB Monitoring

You can monitor IFB signals on channels 5 and 6 by actuating the pushbutton switches "IFB1 LISTEN" on Channel 5 and/or "IFB2 LISTEN" on Channel 6.

On these channels you then monitor the IFB signals instead of the respective 4-WIRE IN signals.

Use this function if you want to listen to a foldback or program signal permanently and the CALL signalisation of a 4-WIRE IN input is not needed - or use it for a brief check of a program signal.

In combination with INTERPRETER MODE it can be used to feed original sound for the interpreter.

5.2. Channel Input to Channel Output Feed

In certain setups it is essential to feed the channel input signal „4-WIRE IN“ to the output of the same channel „4-WIRE OUT“.

Configure this function by switching CHANNEL CONFIGURATION switch 10 „4-WIRE IN“ to the on position. The function is indicated in the channel section by the LED labelled „IN“ (green colour).

The feed/mix behaviour to the channel output is identical to your setup for the IFB signals (CHANNEL CONFIGURATION switches 6 and 7, see above).

5.3. Audio Output MIC AMP OUT PERMANENT

At the XLR connector labelled MIC AMP OUT PERMANENT on the back panel the microphone signal (post microphone amplifier/post limiter, if activated) is present.

Use this output to feed the microphone signal to other equipment within your intercom or studio setup.

Note: *When you use this output, inform the AID-6 operator about the fact that his microphone signal may be monitored on some remote equipment even if no AID-6 TALK function is active.*

5.4. GROUP TALK

The GROUP button (labelled „GRP“) allows you to operate several channel TALK functions at the same time. Set switch 3 of the CHANNEL CONFIGURATION switch array to the on position for all channels, which shall be operated by the GROUP button.

As for the TALK button, switch action can be selected for the GROUP button. Set MASTER CONFIGURATION switches 5 „GRP TALK LATCH“ and 6 „GRP MOM LATCH“ to the designated positions:

5 and 6 off: Momentary
5 on, 6 off: Latching
5 and 6 on: combined Momentary/Latching

(Switch position 5 off, 6 on is not defined, same evaluation as 5 and 6 off.)

- Momentary: GROUP TALK is active as long as you hold the button in the depressed position.
- Latching: Push once to activate GROUP TALK, push again to deactivate.
- Combined Momentary/Latching: Pushing the button short will result in a latching action, pushing the button long will result in a momentary action.

Interaction of TALK and GROUP TALK:

- If a channel TALK function is in the deactivated state, GROUP TALK is able to switch it on or off
- If a channel TALK function is activated, it cannot be switched off by GROUP TALK.
- If a channel TALK function has been activated by GROUP TALK, it cannot be switched off by the channel TALK button.

5.5. Control Output MASTER GPI OUT

MASTER GPI OUT can be triggered by a channel TALK function. CHANNEL CONFIGURATION switch 4 „GPI MASTER“ is dedicated to this feature.

MASTER GPI OUT is activated, when the TALK function of one or more of the adequately configured channels is active.

Example of use: Connect this GPI output to the control logic of your mixing desk in order to switch off or dim a control monitor while you talk.

5.6. Control Output GPI OUT/REMOTE OUT

These control outputs provide status tallies for TALK function as well as CALL signalisation for each channel.

Use them for controlling remote equipment of your intercom system or for driving auxiliary LED/lamp indicators.

6. INTERPRETER MODE

Activate INTERPRETER MODE by setting MASTER CONFIGURATION switch 9 to the ON position. Your selection is indicated by an LED above channels 5 and 6 labelled "5/6 INTERPRETER MODE".

This function optimises the performance of your AID-6 for interpreter operation.

6.1.1. Microphone input selection

In order to prevent operating errors during live-broadcast, microphone input SELECT switch is deactivated in INTERPRETER MODE. Input selection can only be set by MASTER CONFIGURATION switch 10:

10 off: MIC

10 on: HEADSET

6.1.2. Interpreter voice channels

Channels 5 and 6 are dedicated as interpreter voice channels. They are specially marked by a printed frame. Additionally the TALK buttons light up pale yellow in the deactivated state.

The other channels may be operated as usual.

6.1.3. Switch action/logic performance of interpreter voice channels 5 and 6

- After selecting INTERPRETER MODE the TALK functions are deactivated, TALK buttons light up pale yellow.
- TALK switch action is forced to TALK LATCH mode, irrespective of CHANNEL CONFIGURATION switches 1 and 2 settings.
- CALL SIGNALISATION is suppressed, GPI OUT/REMOTE OUT Call Tallies are deactivated.
- TALK switches are interlocked.
- Pushing an active TALK switch one more time will deactivate TALK function, both are off.

6.1.4. More special functions

- After selecting INTERPRETER MODE the internal loudspeaker is cut. CUT switch lights up red. Pushing the CUT switch will switch the loudspeaker back on.
- When TALK function on one of the interpreter voice channels is active, the internal loudspeaker is cut. It cannot be switched on by pushing the CUT switch.
- When a TALK function on one of the other channels (1-4) is active, the audio output signals of the interpreter voice channels are cut, while their logic state is saved. TALK function is indicated pale red. After deactivating TALK function on channels 1-4 the interpreter voice channels return to their previous state.

Note 1: When the audio outputs of the interpreter voice channels are cut, GPI OUT/REMOTE OUT Talk Tallies are deactivated as well.

Note 2: While a TALK function on channels 1-4 is active, the operator may operate TALK switches 5 and 6 (without audible effect). In this case interpreter channel may not return to the state previous of activating a TALK function on channels 1-4.

Note 3: INTERPRETER MODE does not affect GROUP functions.

7. Connectors/Pin-Out

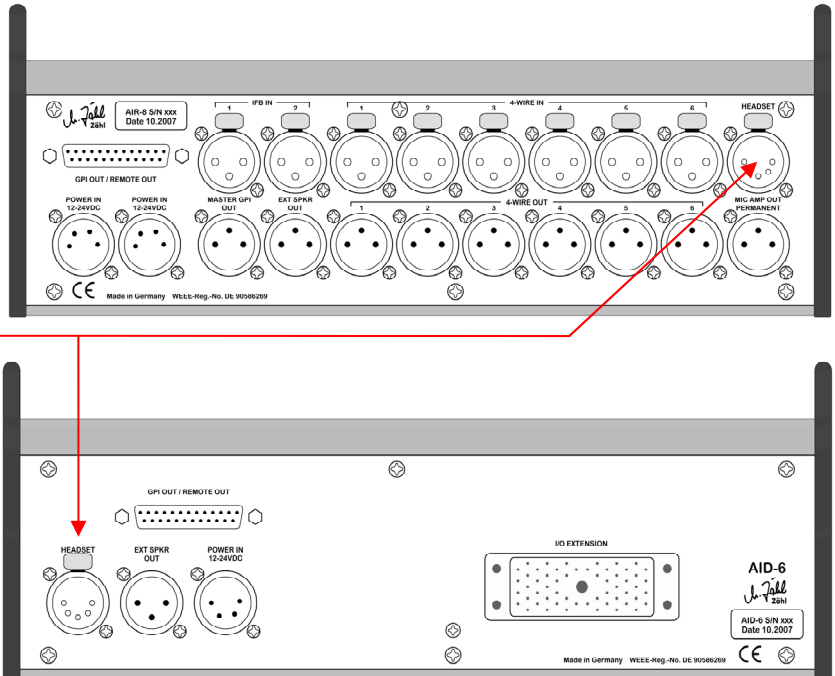
7.1. Audio-Inputs/Audio-Outputs

7.1.1. All Standard 3pole XLR

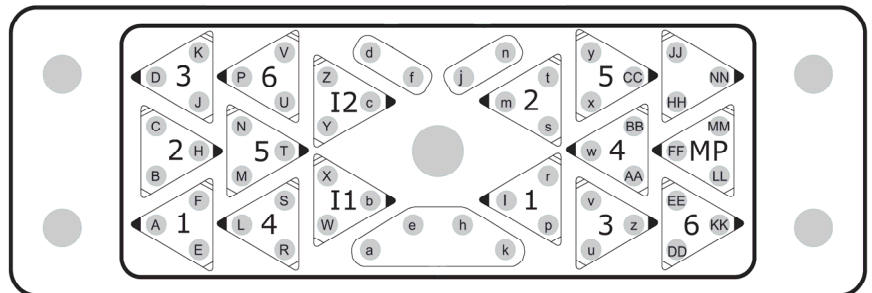
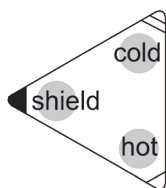
- Pin 1 Shield
- Pin 2 + / hot
- Pin 3 - / cold

7.1.2. Headset 5pole XLR

- Pin 1 Microphone - / cold
- Pin 2 Microphone + / hot
- Pin 3 Shield / Ground
- Pin 4 Headphones right
- Pin 5 Headphones left



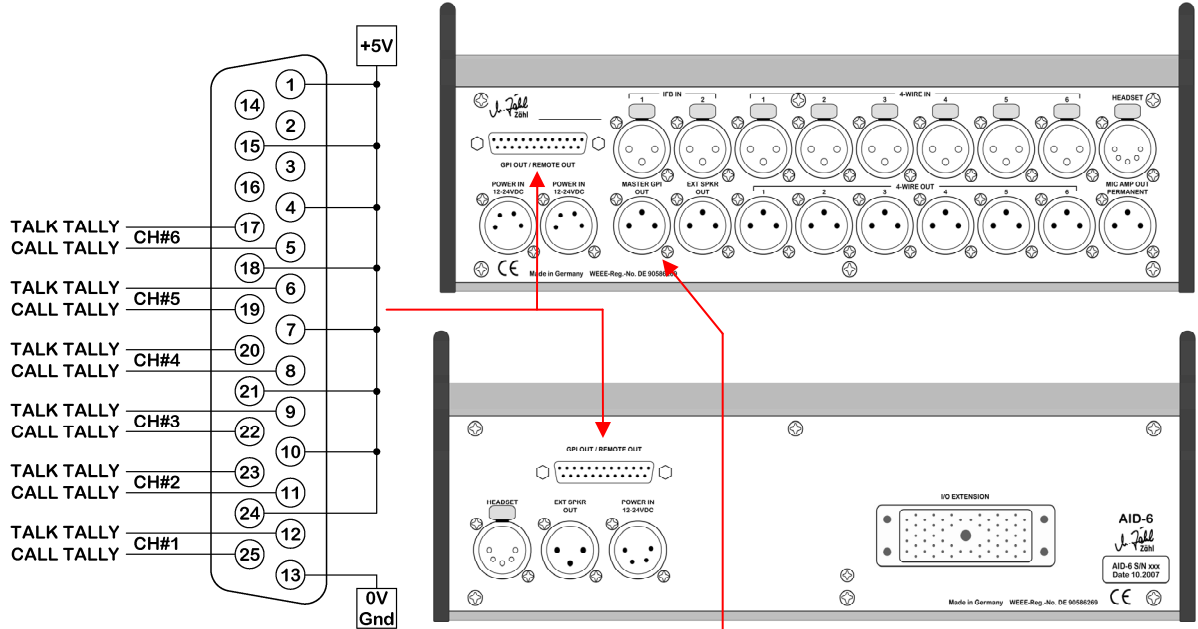
7.1.3. EDAC 56pole (audio connections only, overall pin-out refer to chapter 7.5)



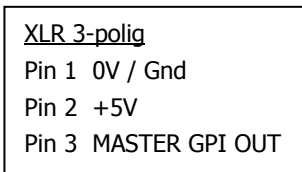
INPUTS		OUTPUTS	
1: 4-WIRE IN Channel 1	5: 4-WIRE IN Channel 5	1: 4-WIRE OUT Channel 1	5: 4-WIRE OUT Channel 5
2: 4-WIRE IN Channel 2	6: 4-WIRE IN Channel 6	2: 4-WIRE OUT Channel 2	6: 4-WIRE OUT Channel 6
3: 4-WIRE IN Channel 3	I1: IFB1 IN	3: 4-WIRE OUT Channel 3	MP: MIC AMP OUT PERMANENT
4: 4-WIRE IN Channel 4	I2: IFB2 IN	4: 4-WIRE OUT Channel 4	

7.2. Control Ports GPI OUT/REMOTE OUT

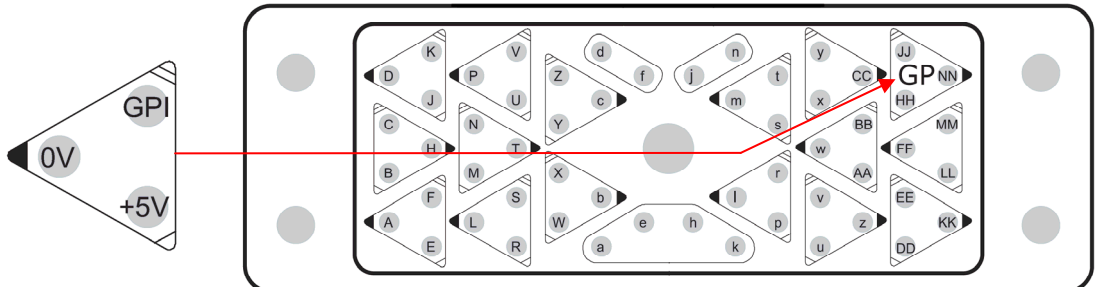
7.2.1. Channel GPI Out



7.2.2. Master GPI Out

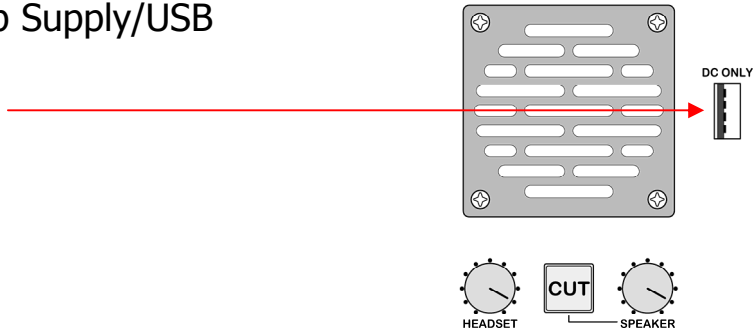


(EDAC 56pole, MASTER GPI OUT only, overall pin-out refer to chapter 7.5)



7.3. Lamp Supply/USB

- Pin 1: +5VDC
- Pin 2: n.c.
- Pin 3: n.c.
- Pin 4: 0VDC

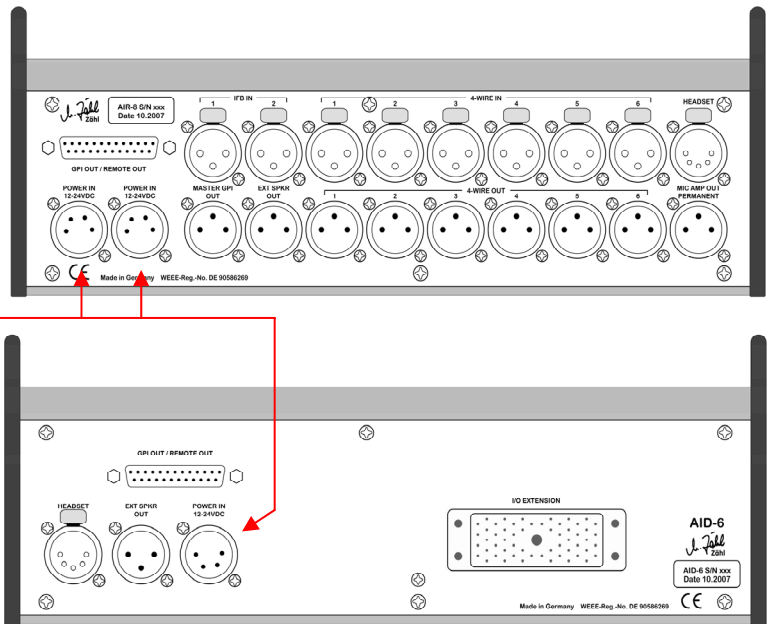


7.4. Power Supply

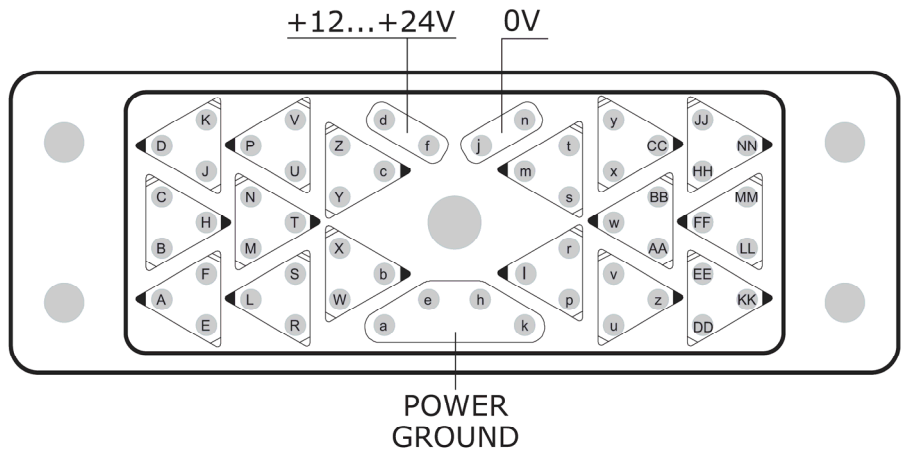
XLR 4-polig

- Pin 1 Gnd / Power Ground *
- Pin 2 Gnd / Power Ground *
- Pin 3 0VDC
- Pin 4 +12V...+24VDC

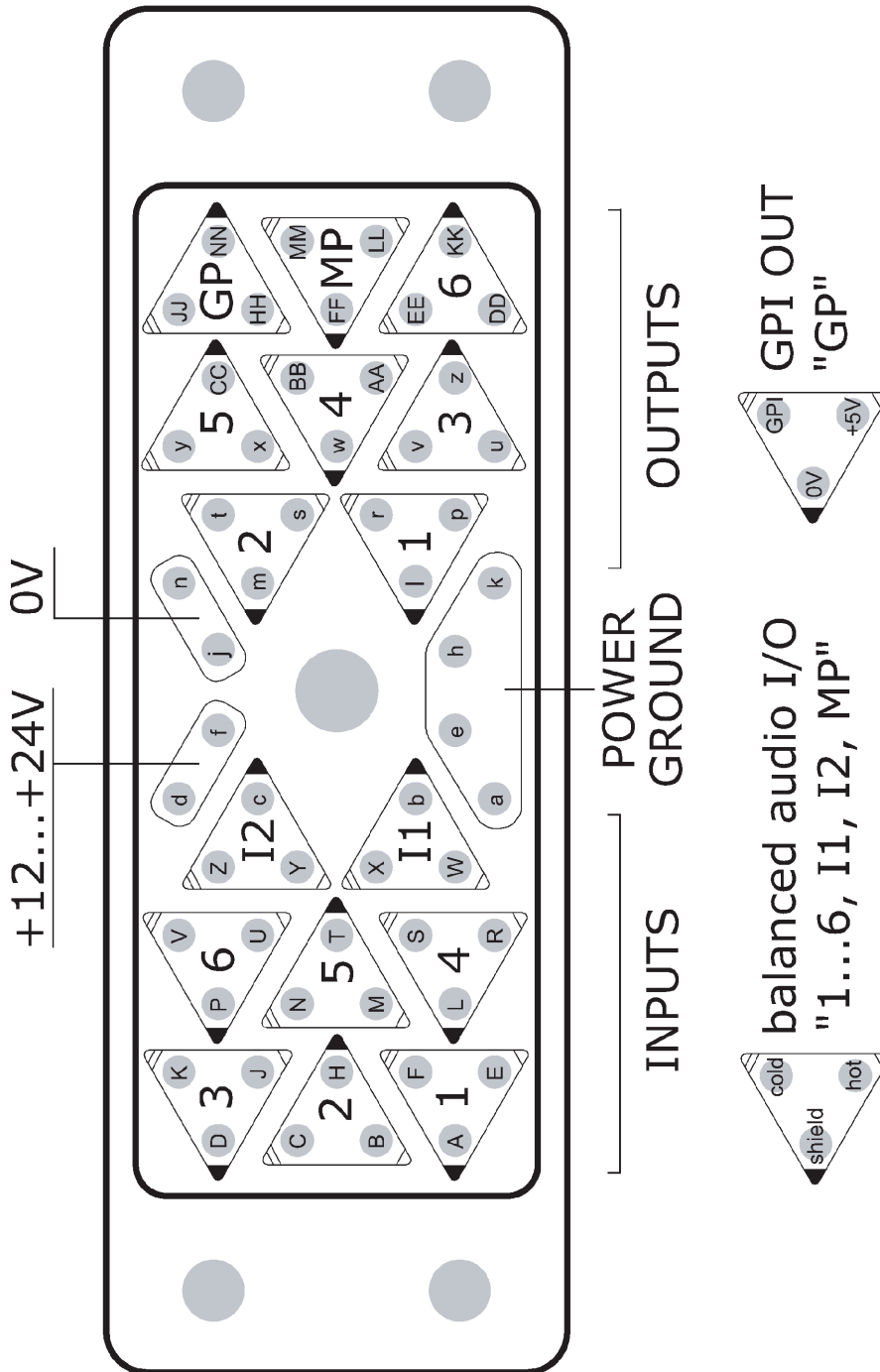
* Protective Earth



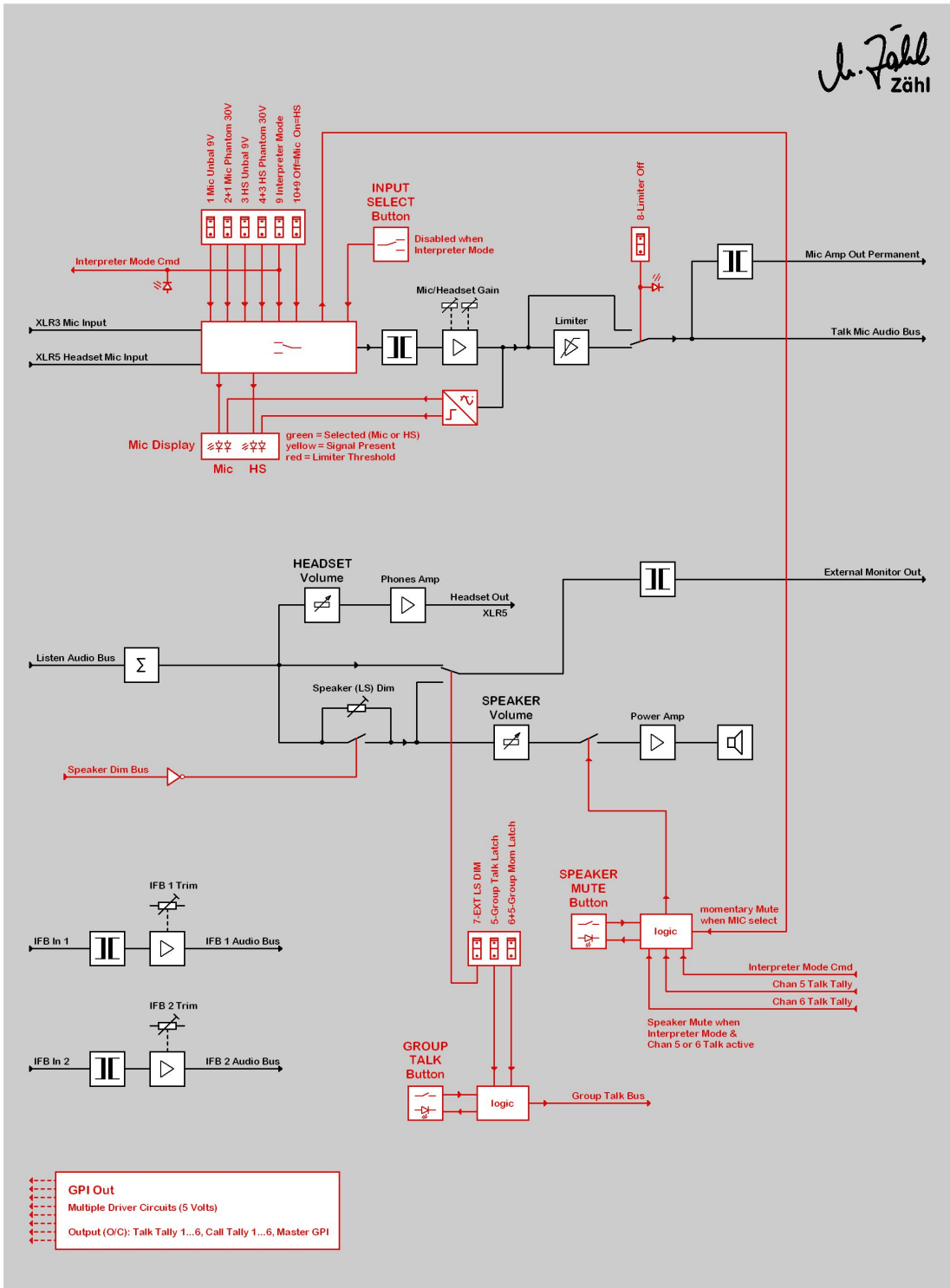
EDAC 56pole (Power connections only, overall pin-out refer to chapter 7.5)



7.5. EDAC 56 pole overall pin-out



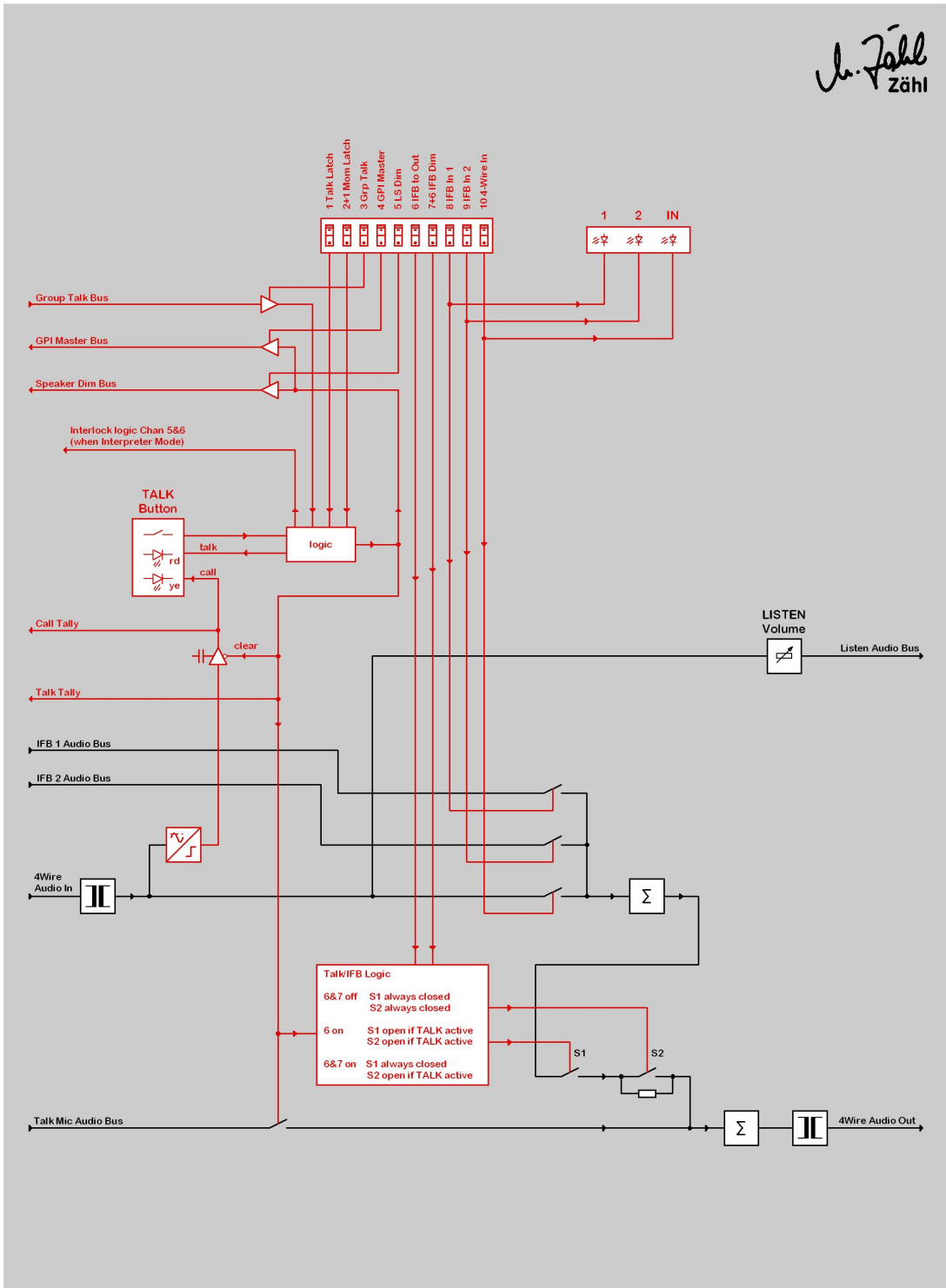
8. Block Diagrams



ZÄHL AID-6 Block Diagram - page 1 of 3
Master Section

Block Diagram shows circuit overview but cannot explain the entire functionality of a unit. Always refer to manual for comprehensive information.

Logic / Control ————
Audio ————
Rev. 2 / 08.04.2009

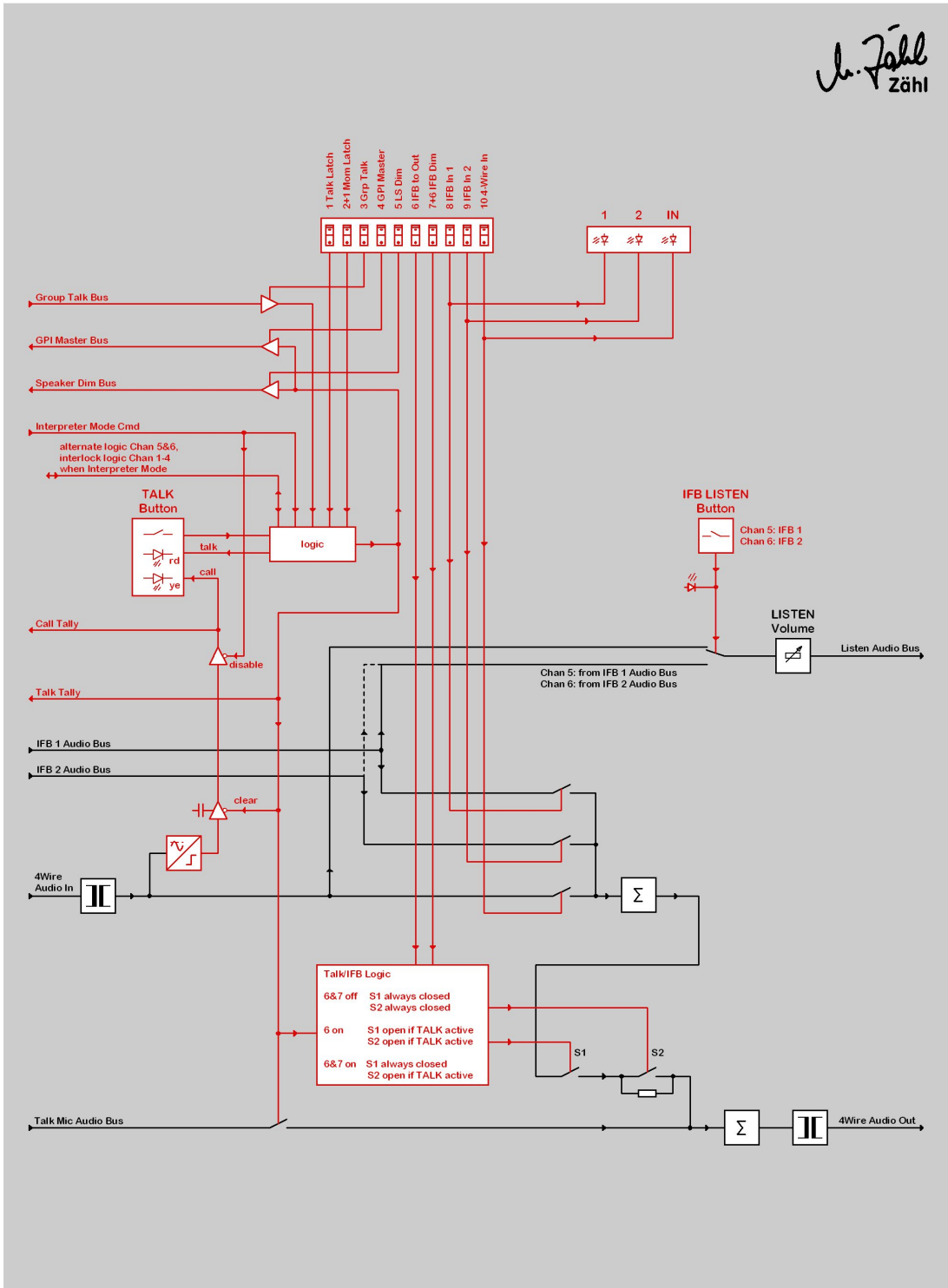


ZÄHL AID-6 Block Diagram - page 2 of 3
Channel Section 1-4 (drawing shows 1 of 4)

Block Diagram shows circuit overview but cannot explain the entire functionality of a unit. Always refer to manual for comprehensive information.

Logic / Control ————
 Audio —————

Rev. 2 / 08.04.2009



ZÄHL AID-6 Block Diagram - page 3 of 3
Channel Section 5-6 (drawing shows 1 of 2)

Block Diagram shows circuit overview but cannot explain the entire functionality of a unit. Always refer to manual for comprehensive information.
 Rev. 2 / 08.04.2009

9. Technical Data

9.1. Microphone Inputs

transformer balanced
input impedance typ. $1k\Omega$
input level range -20dBu ... -65dBu
maximum input level -3dBu
frequency response typ. 60Hz -3dB / 20kHz -1,5dB
input related noise @ max. gain typ. -126,5 dB (RMS, 20Hz...20kHz, 200 Ohm balanced terminated)
switchable characteristic: balanced / unbalanced +9V AB-powering / balanced +30V phantom power

9.2. Line Inputs

transformer balanced
input impedance typ. $10k\Omega$
reference level +6dBu
maximum input level typ. +18dBu
frequency response 40Hz ... 20kHz -3dB

9.3. Line Outputs

transformer balanced
output impedance typ. 60Ω
reference level +6dBu
maximum output level typ. +18dBu, with limiter +6dBu (-1/+2dB)
frequency response 40Hz ... 20kHz -3dB

9.4. Headphones Outputs

dedicated output stages for left and right
output impedance typ. 25Ω
maximum output level +20dBu w/o load, > +16dBu with 100Ω load
frequency response 40Hz ... 20kHz -3dB

9.5. Power Inputs

AID-6 requires well regulated DC in a range of 12-24V. A maximum of 27V DC must not be exceeded by short voltage spikes.

A stable mains power ground/protective earth (PE) on a power supply input is mandatory.

The 0V pins of both power supply inputs are connected with each other inside the unit. The positive pins of both power supply inputs are decoupled by diodes. I.e. both inputs may be operated at the same time.

If both power supplies deliver the same voltage, load is shared. If they deliver different voltages, the one with the higher voltage is loaded only.

Power consumption in standard operation is 15W...30W, but for short periods of time it may be exceeded substantially. The power supplies we deliver with AID-6 have been selected to be capable for such operation. Hence we assume that the units are operated with these power supplies. In case AID-6 is operated with other power supplies we do not guarantee for correct function of the unit or any damage. Furthermore warranty will be void.

9.6. Control Outputs GPI OUT/REMOTE OUT

Important: Follow all warnings and hints given in chapter 3.3

Control outputs are designed as „open collector“ circuitry.

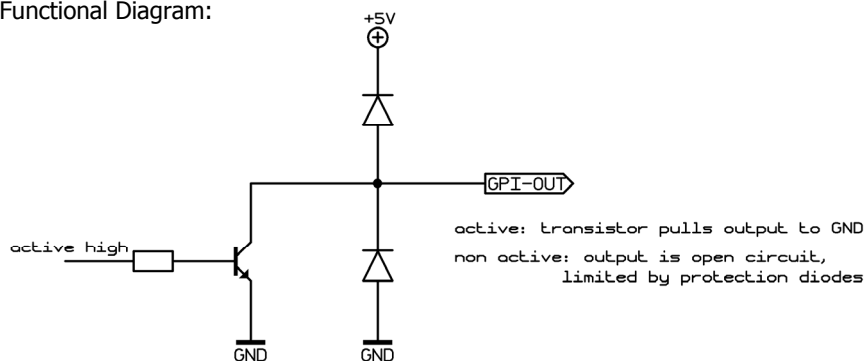
In the idle state they are high-impedance, but still connected to 5V by protective diodes. So never apply voltages higher than 5V.

In the active state they interconnect to 0V. Do not exceed a maximum current of 100mA per output. A maximum of 500mA is allowed for all outputs together.

You may supply relays and lamps directly from the 0V/5V pins of the GPI OUT/REMOTE OUT and the MASTER GPI OUT connector.

Consider that an overall maximum current must not exceed 300mA. When loading the unit's 5V pins with 250mA, voltage will drop to approx. 4,5V.

Functional Diagram:



9.7. Lamp Supply/USB

Important: Follow all warnings and hints given in chapter 3.4

This output (designation "DC ONLY") delivers 5 Volt DC nominal. It may be exclusively used for supplying a standard 5V LED Lamp with USB connector (commercially available with gooseneck). It may be loaded to a maximum current of 400mA, whereas the voltage will drop to approx. 4,5V.

Never connect any active electronic components to this connector.

10. Measures and Weights

10.1. AID-6 Unit

enclosure	plastic material desk console, EMC coated
front panel / back panel	clear anodised aluminium
overall measure W x H x D	295 mm x 115 mm x 215 mm
height of front panel at front	43 mm
height of front panel at rear	90 mm
weight	approx. 2,5 kg

10.2. Power Supply

measure W x H x D	146 mm x 75 mm x 44 mm or smaller version
weight	0,6 kg (max.)
length of fixed cable (DC to unit)	approx. 1,6 m
length of mains cable	1,5 m - 2,0 m

10.3. Delivery Form

cardboard box	approx. 500 mm x 340 mm x 220 mm
gross weight	approx. 4,75 kg

