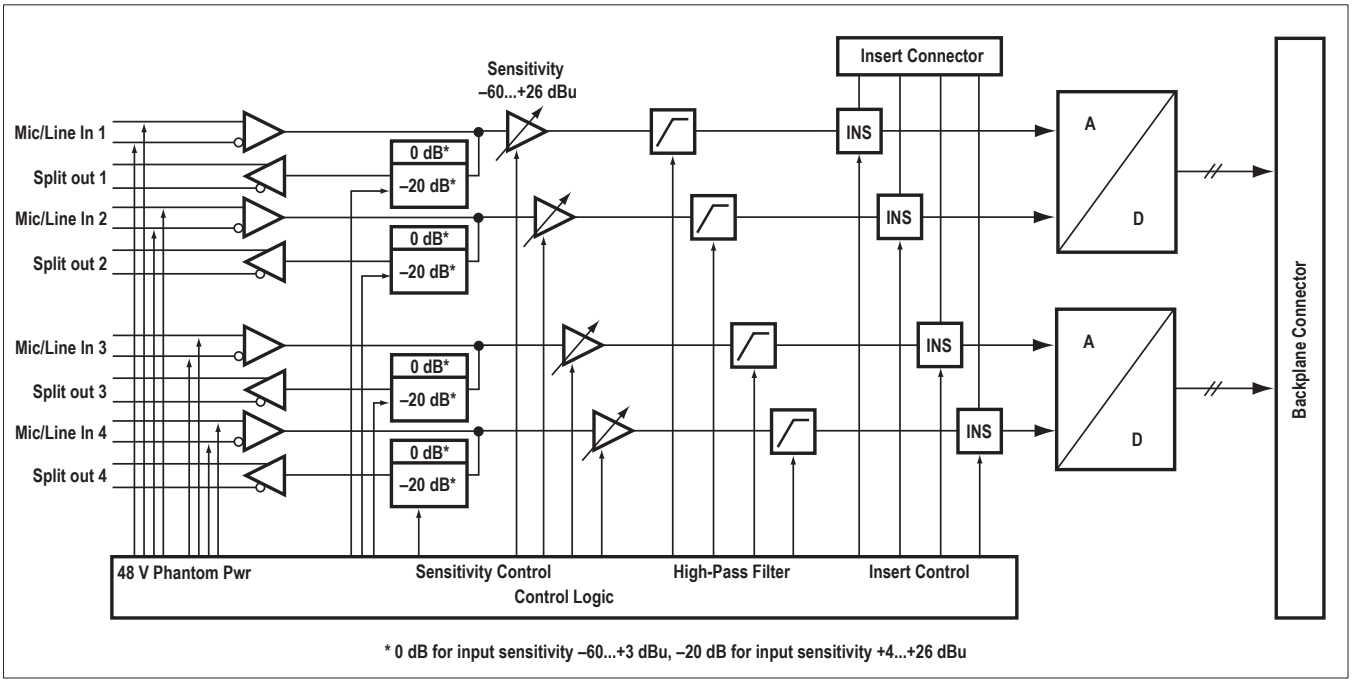
6.2 Analog I/O Cards

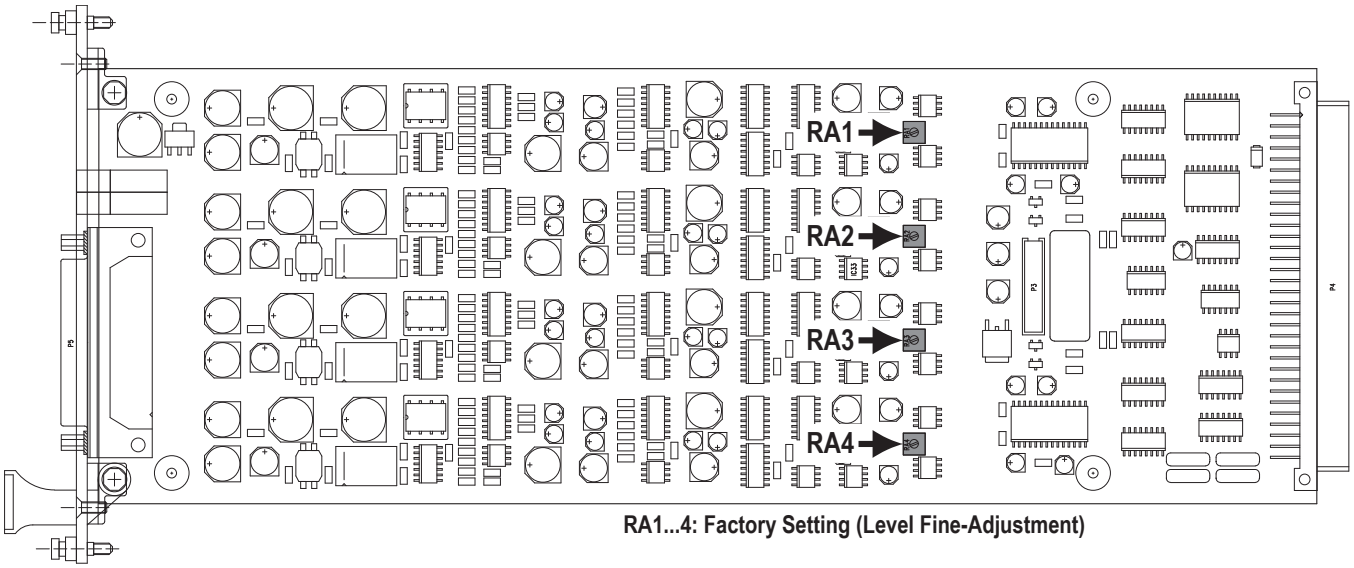
6.2.1 Mic/Line In Card (VISTA, OnAir, ROUTE 6000) A949.0427

Four analog microphone/line inputs, electronically balanced, with 24 bit, 44.1/48/88.2/96 kHz delta-sigma A/D converters. Four analog split outputs, electronically balanced. Green 'signal present' and yellow 'phantom power' indicators per channel. Mic/line sensitivity, gain setting in 1 dB steps, low-cut filter, soft clipping and 48 V phantom power on/off are controlled by the console software. Inputs and split outputs on a standard 25-pin D-type connector (female).

Gain setting: 15 dBu ≙ 0 dB_{FS}, unless otherwise noted.

Input sensitivity (for 0 dB_{FS})	–60…+26 dBu
Input impedance	1.8 kΩ
Split out gain (input sensitivity –60…+3 dBu)	0 dB
(input sensitivity +4…+26 dBu)	–20 dB
Split out impedance	50 Ω
Equivalent input noise (R_i 200 Ω, max. gain)	–124 dBu
Crosstalk (1 kHz)	< –110 dB
Frequency response (30 Hz-20 kHz)	–0.2 dB
THD&N (1 kHz, –1 dB_{FS})	< –97 dB_{FS}
(20 Hz-20 kHz, –30 dB_{FS})	< –111 dB_{FS}
CMRR (30 Hz-20 kHz, all gain settings)	> 55 dB
(1 kHz, input sensitivity –10 to +26 dBu for 0 dB_{FS})	typ. 100 dB
Low-cut filter	75 Hz / 12 dB/oct.
Input delay (local)	38 samples (0.79 ms @ 48 kHz)
(remote)	45 samples (0.94 ms @ 48 kHz)
Current consumption (7 V)	0.2 A
(±15 V)	0.25 A
Operating temperature	0-40 °C



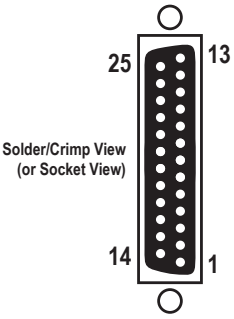


RA1...4: Factory Setting (Level Fine-Adjustment)

LEDs **PHANTOM 1-4** For each channel a yellow LED indicates that pantom power is on.
SIGNAL 1-4 For each channel a green LED indicates whether input signal is present; its brightness is a rough indication of the signal level.

Alignment **RA1-4** *Please note that the level fine-adjust trimmer potentiometers are factory-set. They need to be adjusted only after having repaired the card.*
Select 15 dBu input sensitivity. Feed an analog signal with a level of +6 dBu to one of the analog inputs. Measure the digital output level either on the MADI output or, after routing through the core, on one of the AES/EBU outputs. Adjust the level with the corresponding trimmer potentiometer to –9 dB_{FS}.

Connector Pin Assignment



4× BALANCED MIC IN/SPLIT OUT (25pin D-type, fem., UNC 4-40 thread)

Pin	Signal	Pin	Signal
1	CH 4 split out +	14	CH 4 split out –
2	CH 4 split out GND	15	CH 3 split out +
3	CH 3 split out –	16	CH 3 split out GND
4	CH 2 split out +	17	CH 2 split out –
5	CH 2 split out GND	18	CH 1 split out +
6	CH 1 split out –	19	CH 1 split out GND
7	CH 4 in +	20	CH 4 in –
8	CH 4 in GND	21	CH 3 in +
9	CH 3 in –	22	CH 3 in GND
10	CH 2 in +	23	CH 2 in –
11	CH 2 in GND	24	CH 1 in +
12	CH 1 in –	25	CH 1 in GND
13	n.c.		

Important!

If wired correctly, the microphones are isolated from the D21m chassis. The circuit within the microphone takes its supply from pins 2 and 3 (+ and –) for the positive, and from pin 1 (GND) for the negative reference. If a patch bay is implemented, GND (pin 1 on XLR connector) of each microphone input must be connected to its corresponding GND pin, *but not to the chassis*. If the chassis is used as negative reference for a microphone instead of GND, the GND net of the D21m is pulled towards –48 V. This causes the HD link receivers not to work correctly or to be damaged, depending on the type and the number of microphones connected.
As a workaround, GND and chassis may be connected within the D21m frame. If currents flow between the chassis nets of multiple devices, the analog signals can be degraded in quality (e.g. perceivable as hum).