

Voice Recording System VC-MDX

Analogue Interface Board 8KA-SW (PCI)

Version 2208

1 General

The 8KA-SW (PCI) interface board is used to receive and record analogue voice signals and signaling data from telephone lines, to convert the signals into VC proprietary format and to save them on storage device.

It is connected to passive telephone lines unit and is connected to the telephone lines by using isolated, high impedance analog interfaces. Via the PCI bus signaling the audio and data are transferred to the recording systems. The 8KA-SW (PCI) interface board provides up to 24 recording channels. The basic board is equipped with 8 recording channel and can be expanded with max 2x 8 channel extension board (piggy-pack).

It performs line supervision, audio capture with Automatic Gain Control, Warning Tone generation, Caller ID detection, real time DTMF signal processing and audio data compression.

The inputs of the board have limited protection against overvoltages (see specifications). So, adapted supplementary protection should be used if the inputs are connected to lines where there is a risk of overvoltage (lightning for example).

2 Applications

Typical applications are the recording from various analogue sources, such as Voice Switches (VCCS), Telephone lines, Radio outputs, Intercom systems and Microphones.

3 Functions

- High-impedance passive monitoring through parallel connection
- A variety of ways to start/stop recording
- Support of simultaneous recording on 24 channels
- Caller ID detection, FSK/DTMF support
- DTMF digits detection
- Simultaneous detection of DTMF and FSK
- Programmable tone analyzer detects all kinds of tones
- Activity/silence detection
- Automatic Gain Control (AGC) support in recording/playback operation
- Call progress monitoring
- Automatic detection of line voltage
- Automatically checks board to see if recording modules are correctly inserted

4 .Technical data

The **VC-MDx** can be equipped with analogue interface boards for the purpose of recording from various analogue sources, including Voice Communication Switches (VCS), Telephone lines, Radio outputs, Intercom systems and Microphones.

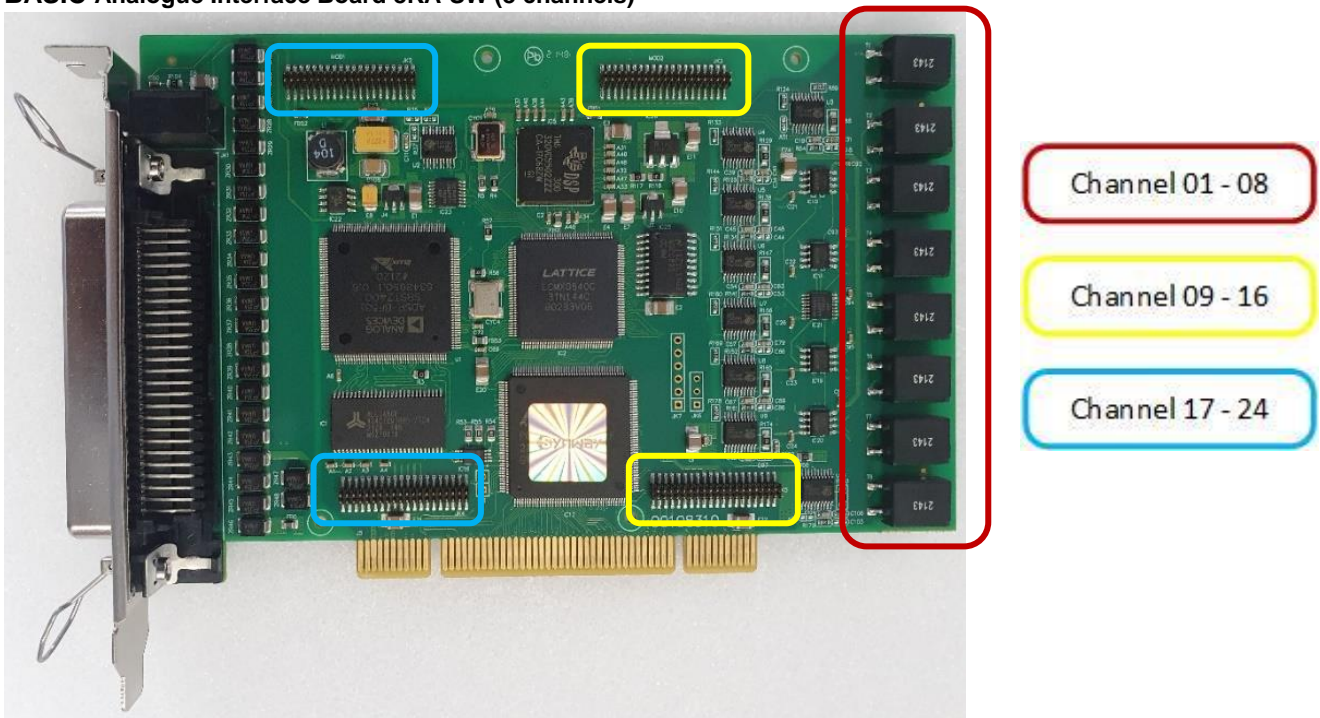
This interface board is available in 4, 8, 12, 16 and 24 channel configurations. Channel capacity is controlled by license key.

Dimensions:	160x111mm ² (excluding L-bracket)
Weight:	≈215g (including 2 8-channel modules)
Environment:	Operating temperature: 0°C —55°C
	Storage temperature: -20°C —85°C
	Humidity: 8%— 90% non-condensing
	Storage humidity: 8%— 90% non-condensing
Input/output Interface:	Headset jack: One ϕ 3.5 stereo jack
	Telephone line jack: A 50-pin RJ21 connector
Audio Specifications:	Codec: CCITT A/ μ -Law 64kbps
	IMA ADPCM 32kbps
	Output power: \geq 50mW
	Distortion: \leq 2%
	Frequency response: 300-3400Hz(\pm 3dB)
	Signal-to-noise ratio: \geq 38dB
	Echo suppression: \geq 40dB
max. Board Capacity:	Up to 24 channels per board
Power Requirements:	+3.3V DC: 900mA
	+5V DC: 200mA
	+12V DC: 100mA

5 Mechanical

8KA-SW (PCI) interface board is built as full size PCI card. It is using internal POWER and GROUND planes. Most of the ICs, resistors and capacitors are SMD parts.

BASIC Analogue Interface Board 8KA-SW (8 channels)

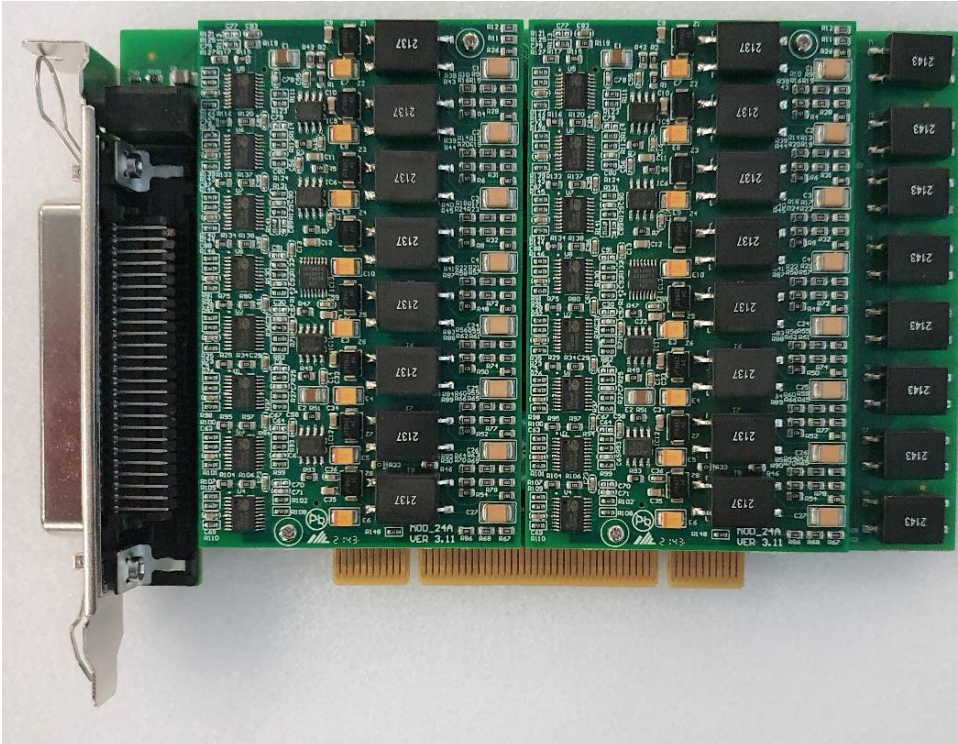


The **BASIC Analogue Interface Board 8KA-SW** provides 8 recording channels. If more than 8 recording channels are required, an **Extension Card** must be inserted onto the **BASIC Analogue Interface Board 8KA-SW**. One **Extension Card** provides 8 recording channels. The first **Extension Card** must be inserted on the left connectors (blue), the second **Extension Card** must be inserted on the right connectors (yellow)

Extension Card (piggy-back 8 channels)



Analogue Interface Board 8KA-SW COMPLETE (24 channels)



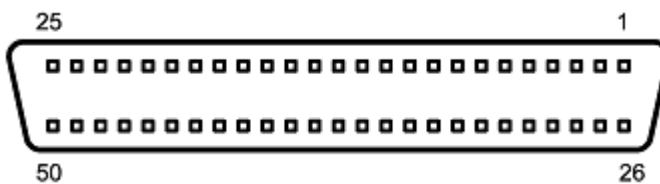
The On-Board slot bracket with a Centronics 50 Poles female connector provides the connection to 8 + 8 + 8 analog telephone lines.

6 P1-Phone lines and external contacts input connector

The phone lines input connector has the following pin-out:

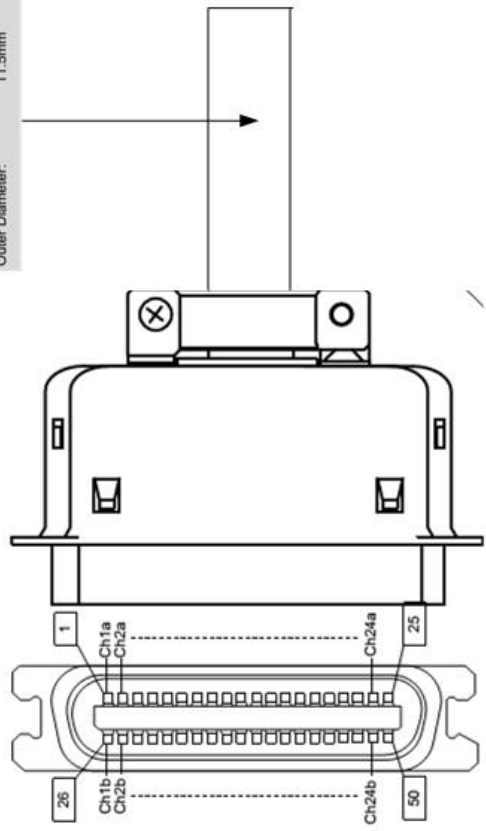
Pin	Signal	Description	Pin	Signal	Description
1	R0	Phone line 1 'b' wire	26	T0	Phone line 1 'a' wire
2	R1	Phone line 2 'b' wire	27	T1	Phone line 2 'a' wire
3	R2	Phone line 3 'b' wire	28	T2	Phone line 3 'a' wire
4	R3	Phone line 4 'b' wire	29	T3	Phone line 4 'a' wire
5	R4	Phone line 5 'b' wire	30	T4	Phone line 5 'a' wire
6	R5	Phone line 6 'b' wire	31	T5	Phone line 6 'a' wire
7	R6	Phone line 7 'b' wire	32	T6	Phone line 7 'a' wire
8	R7	Phone line 8 'b' wire	33	T7	Phone line 8 'a' wire
9	R8	Phone line 9 'b' wire	34	T8	Phone line 9 'a' wire
10	R9	Phone line 10 'b' wire	35	T9	Phone line 10 'a' wire
11	R10	Phone line 11 'b' wire	36	T10	Phone line 11 'a' wire
12	R11	Phone line 12 'b' wire	37	T11	Phone line 12 'a' wire
13	R12	Phone line 13 'b' wire	38	T12	Phone line 13 'a' wire
14	R13	Phone line 14 'b' wire	39	T13	Phone line 14 'a' wire
15	R14	Phone line 15 'b' wire	40	T14	Phone line 15 'a' wire
16	R15	Phone line 16 'b' wire	41	T15	Phone line 16 'a' wire
17	R16	Phone line 17 'b' wire	42	T16	Phone line 17 'a' wire
18	R17	Phone line 18 'b' wire	43	T17	Phone line 18 'a' wire
19	R18	Phone line 19 'b' wire	44	T18	Phone line 19 'a' wire
20	R19	Phone line 20 'b' wire	45	T19	Phone line 20 'a' wire
21	R20	Phone line 21 'b' wire	46	T20	Phone line 21 'a' wire
22	R21	Phone line 22 'b' wire	47	T21	Phone line 22 'a' wire
23	R22	Phone line 23 'b' wire	48	T22	Phone line 23 'a' wire
24	R23	Phone line 24 'b' wire	49	T23	Phone line 24 'a' wire
25	R24	Spare input	50	T24	Spare input

Front View of P1 connector (Centronics 50 Poles female)



Centronics 50P male connector

Cable Product Details:
 Indoor telephone cable, J-V(ST)Y_24*2*0.6
 Pair-twisted wires: Single wire cable (solid wire made from blank copper wire, 0.6 mm or 0.8 mm).
 Cross Sectional Area: 0.28 mm²
 Temperature range: -5 °C → +70 °C
 Number of Pairs: 24
 Outer Diameter: 11.5mm



Pin No.	Color	Group
1	blue	Group 1
2	yellow	Group 1
3	green	Group 1
4	braun	Group 1
5	black	Group 1
6	blue	Group 1
7	yellow	Group 1
8	green	Group 1
9	braun	Group 1
10	black	Group 1
11	blue	Group 2
12	yellow	Group 2
13	green	Group 2
14	braun	Group 2
15	black	Group 2
16	blue	Group 2
17	yellow	Group 2
18	green	Group 2
19	braun	Group 2
20	black	Group 2
21	blue	Group 3
22	yellow	Group 3
23	green	Group 3
24	braun	Group 3
25	Not connected	
26	CH1 b red	Group 4
27	CH2 b white	Group 4
28	CH3 b white	Group 4
29	CH4 b white	Group 4
30	CH5 b white	Group 4
31	CH6 b white	Group 4
32	CH7 b white	Group 4
33	CH8 b white	Group 4
34	CH9 b white	Group 4
35	CH10 b white	Group 4
36	CH11 b white	Group 4
37	CH12 b white	Group 4
38	CH13 b white	Group 4
39	CH14 b white	Group 4
40	CH15 b white	Group 4
41	CH16 b white	Group 4
42	CH17 b white	Group 4
43	CH18 b white	Group 4
44	CH19 b white	Group 4
45	CH20 b white	Group 4
46	CH21 b white	Group 4
47	CH22 b white	Group 4
48	CH23 b red	Group 5
49	CH24 b white	Group 5
50	Not connected	

VoiceCollect		VoiceCollect GmbH Justus-von-Liebig-Str.5 61352 Bad Homburg	
Customer		Cable 10m 24AI-K	
Project		Article-No 7147110	
00003	31.10.2016	PE	Release of production / Modification
00002	22.09.2017	OG	
00001	13.04.2017	OG	
Rev.No	Date	Name	
Replace		Replace by	

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