

How to use

Alarm Extension Board

**Voice Recording System
VC-MDx**

Version V2105

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1 General description

The Alarm Extension Board is part of the optional hardware. It provides alarm and warning messages and also the Recorder application state by means of dry contacts independently of the system monitor. It can be mounted on an analogue Interface Board or an Alarm support Board of the VC-MDx System. The Alarm Extension Board has the following outputs:

- 3 Alarm outputs (by means of relays)
- +12 V output (max. 250 mA)
- GND

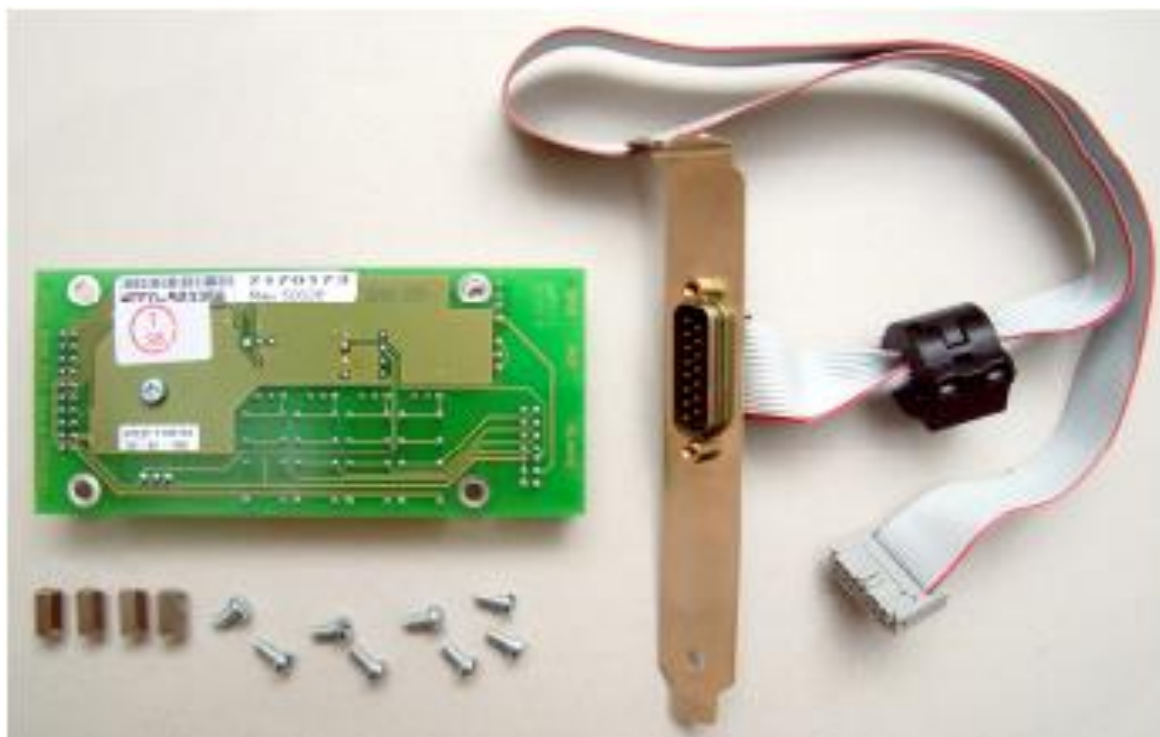
The Alarm Extension Board must be attached onto the AI8K or AI16K/32K or AI24K Analogue Interface Boards or when not available, onto the Alarm support Board and fixed with screws and distance bushes. The outputs are available on a DB-15 connector mounted at the backside of the System.



Figure 1, Alarm Extension Board

2 Scope of supply

Your Alarm Extension Board comes with:



- 1x 7168062 Alarm Extension Board
- 1x 7145010 Ribbon cable with slot bracket
- 8x 50629 Screw M3 x 6 mm
- 4x 60411 Distance bush M3 x 10 mm

3 Mounting

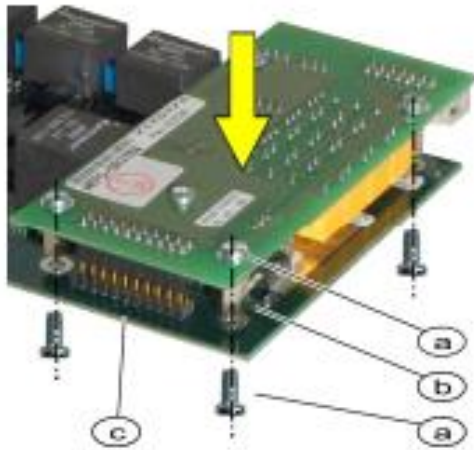


Figure 2, 7168062_Alarm Extension Board assembly

Assembly:

Proceed as following:

- Put the analogue Interface Board on an antistatic, grounded base.
- Put on an antistatic, grounded wristband.
- Tighten the four distance bushes (b) onto the component side of the Alarm Extension Board with four of the screws M3 x 6 mm (a).
- Proceed to the configuration of the Alarm Extension Board with Jp1, Jp2, Jp3 and Jp4, because these Jumpers are not reachable when the Alarm Extension Board is assembled on the analogue Interface Board.
- The Alarm Extension Board must be carefully positioned in order to align the holes with the distance bushes (b). At the same time, P3 (c) must be correctly connected to the pins of the analogue Interface Board.
- Fix the Alarm Extension Board to the analogue Interface Board with the other four screws M3 x 6 mm (a).

Disassembly:

Proceed as following:

- Put the Analog Interface Board on an antistatic, grounded base.
- Put on an antistatic, grounded wristband.
- Unscrew the four screws (a) from the Analog Interface Board.
- Pull up the Alarm Extension Board from the Analog Interface Board.

4 Ports and Jumpers

To identify the ports and jumpers see the figure below:

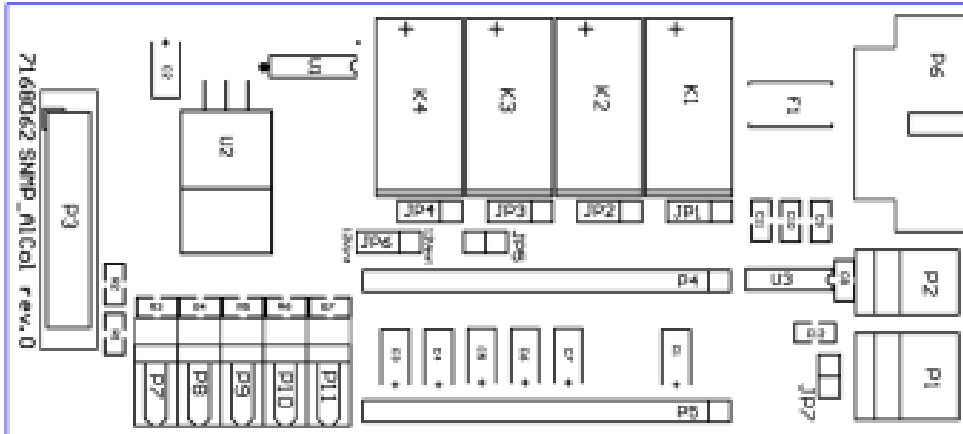


Figure 3, 7168062_Alarm Extension Board

Pos.	Description
P6	Alarm output connector
P1	External Power connector
P2	RS232 connector
F1	F1 Alarms Fuse
Jp1, Jp2, Jp3, Jp4	Alarm relays NO/NC connection
Jp6	External/Internal 12V selection
P3	Alarm Extension Board Connector

Tab. 1, Ports and jumpers location

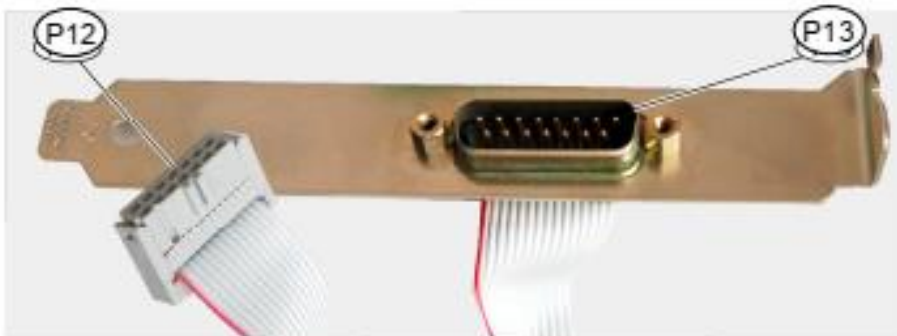


Figure 4, 7168062 Alarm Extension Board cable with slot bracket

Pos.	Description
P12	Alarm output connector
P13	Alarm Cable Connector on slot bracket

Tab. 2, Alarm Extension Board cable with slot bracket

4.1 P12 Alarm output Connector


Alarms-Output-Connector has the following pin-out:

Pin	Signal	Description
1	GND	Ground for audio and for alarms (when passive)
2	+12V	fused 12V for passive external alarms
3	GND	Ground for audio and for alarms (when passive)
4	n.c.	
5	GND	Ground for audio and for alarms (when passive)
6	n.c.	
7	RLY4b	Alarm relay 4 contact # 2 (Common)
8	RLY4a	Alarm relay 4 contact # 1 (Normal Open or Normal Close)
9	RLY3b	Alarm relay 3 contact # 2 (Common)
10	RLY3a	Alarm relay 3 contact # 1 (Normal Open or Normal Close)
11	RLY2b	Alarm relay 2 contact # 2 (Common)
12	RLY2a	Alarm relay 2 contact # 1 (Normal Open or Normal Close)
13	RLY1b	Alarm relay 1 contact # 2 (Common)
14	RLY1a	Alarm relay 1 contact # 1 (Normal Open or Normal Close)

Tab. 3, P12 Alarm output connector

4.2 P1 External Power Connector

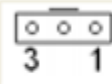
The Speaker output Connector has the following pin-out:

		
Pin	Signal	Description
1	+12Vext	+12V external power supply
2	GND	Ground
3	GND	Ground
4	+5V	+5V external power supply

Tab. 4, P1 external power connector

4.3 P2 RS232 Connector

The Potentiometer Connector has the following pin-out:

		
Pin	Signal	Description
1	RX	Receive
2	TX	Transmit
3	GND	Ground

Tab. 5, P2 RS232 connector









4.4 F1 Alarms Fuse

The Alarms Fuse has the following value:

- 12V
- 1
- Slow

4.5 Jp1, Jp2, Jp3, Jp4 Alarm Relays NO/NC Selection

The jumper Jp1, Jp2, Jp3 and Jp4 are used to configure the Alarm-Relays-Contacts to NO (Normal Open) or to NC (Normal Closed). For safety reasons the default settings are N.C.: "Alarm ON".

Jumper	Pins connected	Relays Contacts at P6
Jp1	 3 2 1	RLY1A and RLY1B N.O.
Jp1	 3 2 1	RLY1A and RLY1B N.C. (default)
Jp2	 3 2 1	RLY2A and RLY2B N.O.
Jp2	 3 2 1	RLY2A and RLY2B N.C. (default)
Jp3	 3 2 1	RLY3A and RLY3B N.O.
Jp3	 3 2 1	RLY3A and RLY3B N.C. (default)
Jp4	 3 2 1	RLY4A and RLY4B N.O.
Jp4	 3 2 1	RLY4A and RLY4B N.C. (default)

Tab. 6. Jp1, Jp2, Jp3, Jp4 Alarm Relays NO/NC selection

4.6 P13 Alarm Cable Connector on slot bracket

The Alarm Cable Connector at the backside of the system has the following pin-out:

Pin	Signal	Description
1	Relay 1	Message
2	Relay 2	Error
3	Relay 3	Reserved
4	Relay 4	System blocked/Total failure
5	n.c.	
6	n.c.	
7	+12 V	max. 250 mA
8	n.c.	
9	Relay 1	Message
10	Relay 2	Error
11	Relay 3	Reserved
12	Relay 4	System blocked/Total failure
13	GND	
14	GND	
15	GND	

Tab. 7, P13 Alarm Cable Connector on slot bracket

5 Function

Prerequisite:

The following description of the relays status applies to the default settings: N.C. (Normal Closed). This means that the system has to keep the relays open. In case of interruption of the lines, the contact will be closed and the relays will activate the alarm.“

While the system is running, all relays are activated and the according contacts are open. In case of an alarm situation or if the system is shut down, the contact will be closed.

5.1 Status changes at alarm contact relays

Relais	Connector	Alarm
K1	Pin 1 and 9	Message
K2	Pin 2 and 10	Error
K3	Pin 3 and 11	Reserved
K4	Pin 4 and 12	System blocked/Total failure
	Pin 7	+12 V (max. 250 mA)
	Pin 13, 14, 15	GND

Tab. 8, Status changes at alarm contact

When the system is switched off or the application is not launched, all the relay contacts are closed (Alarm ON). When the application is running, all relay contacts are open (Alarm OFF) and remain open (Alarm OFF) until an event occurs

5.2 Warning messages

They are signalled at relay K1. The first warning closes K1 (Alarm ON). It remains closed until all the warnings are confirmed. If no warning is displayed on the screen, K1 will be opened again (Alarm OFF).

5.3 Error Messages

They are signalled at relay K2. The first error message closes K2 (Alarm ON). It remains closed until all the error messages are confirmed. If no error message is displayed on the screen, K2 is opened (Alarm OFF) closed again.

5.4 System Blockings

They are signalled at relay K4. This works according to the watchdog principle: in order to keep the relay opened (Alarm OFF), the application must exchange messages with the control board regularly. If there are no messages (for longer than 3 seconds), the card closes relay K4 (Alarm ON) and assumes that the malfunction is due to a severe hardware fault.

5.5 Relay K3

It is reserved when this unit is used for SNMP management.

5.6 Possible messages at relay K1 (no system failures)

Category	Message
Eject operation failed	Eject failed.
Error on media	Error on media buffer Error reading buffer information. Error opening buffer. Error configuring buffer. Error formatting media. Error reading media information. Error reading user information. Access denied. Please check your user rights. The media will be ejected. No format tool installed. The media could not be formatted. The media will be ejected..
Card not synchronized	Synchronization lost board: {0}, ISA: {1} Synchronization lost board: {0}, slot: {1}, PCI bus: {2}, device: {3}, function: {4} RIAB[{0}] S2M no sync Card {0} {1} {2} is not synchronized
Database errors	Database maximum limit reached Update Data base error: Operation={0} key={1} error Code = {2} : {3}. Connection to DataBase lost: operation = {0}, key = {1}, error code = {2}, error = {3}.
System errors	ARMS Disconnected A valid CM dongle was added. RIAB[{0}] RIAB not started RIAB[{0}] No receiver on data link RIAB[{0}] VDS prot. receive error RIAB[{0}] records buffer overflow RIAB[{0}] fatal mem. alloc. Error RIAB[{0}] fatal SW error RIAB Data Disconnected {0} RIAB Configuration Disconnected {0} ARMS Disconnected DiskBuffer error: {0} failed, channel number = {1}, record id = {2}. DiskBuffer error copying.
Cards errors	Unexpected exception on card group {0}, exception: {1} Error on card group: {0} error timeout. Error on card: {0}, bus: {1}, id: {2}. Error message: {3} Error on card: {0}, bus: {1}, port: {2}. Error message: {3} Error on card: {0}, bus: {1}. Error message: {2} Card group: {0} restart after timeout error. Card : {0}, bus: {1}, id: {2} restart after timeout error. Card : {0}, bus: {1}, port: {2} restart after timeout error. Card : {0}, bus: {1}. Restart after timeout error. Unexpected exception on card group {0}, exception: {1} .
Buffer errors	RIAB[{0}] Rec.buf.full DiskBuffer Init.

Tab. 9, Possible messages at relay K1 (no system failures)

5.7 Possible system failure messages at relay K2

Category	Message
Deck is full	The media is full. The media will be ejected. NAS is full.
Channels inactive	There was no activity on channel {0}.
Init operation failed	Init operation failed. Error opening buffer. Init operation failed. Error configuring buffer. Init operation failed. Error reading media information.
Deck not ready	No disk in unit.
Media is write protected	Media is writing protected.
Warning on media	The deck is configured in play mode but the media is empty. The media will be ejected. The deck is configured in play mode but the media is unformatted. The media will be ejected.
Dongle warning	CM dongle was removed: Please reinsert dongle to avoid application self closing.
Deck is full (75/90/95)	Deck {0} is {1}% full NAS is {0}% full

Tab. 10, possible system failure messages at relay K2

5.8 Output of total failure message at relay K4

A total failure message or severe system error or system blocking is transmitted over relay K4 to the VC-MDx application and is displayed on the screen as warning or error message.

5.9 Audible signals

Audible signals can be enabled or disabled in the Service menu. For error messages and warnings different signals are emitted. This enables the operator to distinguish acoustically between both types of messages

***** End of Document *****