AQS PSD/3 BOARD

H14109
User Manual

Version 001

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About This Manual 1

Introduction 1.1

This manual is included with the delivery of the AQS PSD/3 (EC00) board.

It provides instructions on how to:

- Install and configure the board.
- Wire and operate the board.
- Service and maintain the board.

Disclaimer 1.2

The board should only be used for its intended purpose as described in this manual. Use of the board for any purpose other than that for which it is intended is taken only at the users own risk and invalidates any and all manufacturer warranties.

Service or maintenance work on the board must be carried out by qualified personnel.

Read this manual before operating the board. Pay particular attention to any safety related information.

Safety Issues 1.3

The PSD/3 board is no more or less hazardous than any typical electronic or pneumatic hardware and should be treated accordingly.

Warnings and Notes 1.4

There are two types of information notices used in this manual. These notices highlight important information or warn the user of a potentially dangerous situation. The following notices will have the same level of importance throughout this manual.

Note: Indicates important information or helpful hints

WARNING: Indicates the possibility of severe personal injury, loss of life or equipment damage if the instructions are not followed.

Contact for Additional Technical Assistance 1.5

For further technical assistance on the PSD/3 Board, please do not hesitate to contact your nearest BRUKER dealer or contact us directly at:

BRUKER BioSpin GmbH
am Silberstreifen
D-76287 Rheinstetten
Germany

Phone: + 49 721 5161 0
FAX: + 49 721 5171 01
E-mail: nmr-software-support@bruker-biospin.de
Internet: www.bruker-biospin.de

Product Information

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Product Identification 2.1

Description: AQS-PSD/3 Board

Part No.: H14109

Vendor: Bruker BioSpin GmbH
Silberstreifen
76287 Rheinstetten (Germany)

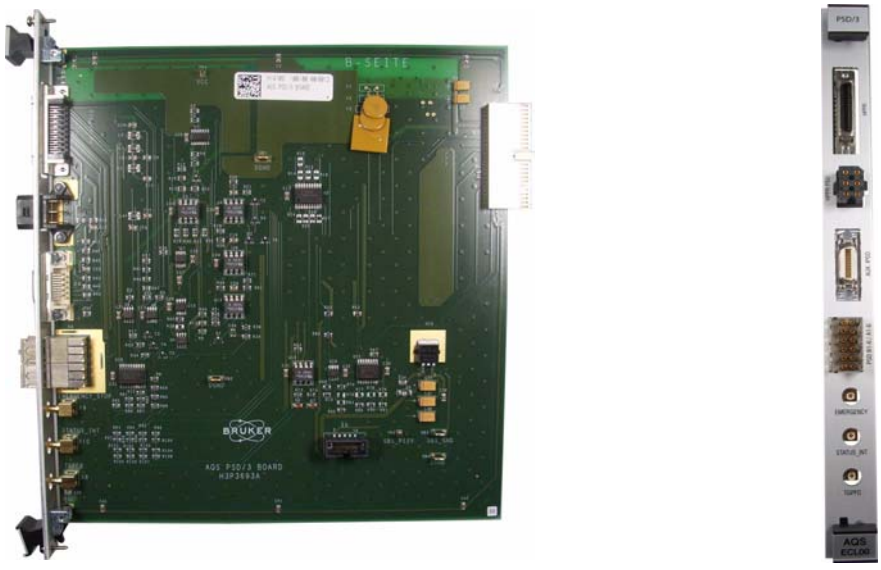

Figure 2.1. PSD/3 Board - Side and Front Views

Product Description 2.2

All spectrometers with an IPSO need to use the PSD/3 board.

The board provides the following features:

- Power Supply and SBS-BUS Interface to the HPPR/2,

  EMERGENCY_STOP, STATUS_INT signal from HPPR/2,
  INTERLEAVE_INCR, RGP_HPPR_OUT, LOCK_PP signals to HPPR/2.

- The Blanking Signals 1..8 to the external amplifiers.

Environmental Operating Conditions 2.3

Maximum elevation:	2000 meters above sea level.
Temperature range:	Between +5°C and +40°C.
Highest relative humidity:	80% for temperature up to 31°C, linear decreasing until 50% relative humidity at 40°C.
Storage temperature:	Between 0°C and +40°C.

Dimensions and Weights 2.4

Height:	262 mm
Depth	250 mm
Breath:	23 mm
Weight:	305 g

Cleaning Instructions 2.5

Instructions for cleaning the board:

1. Switch off the rack.
2. Disconnect all lines and cables.
3. Pull out the board from the slot.
4. Clean the board with oil free compressed air.
5. Clean the front plate with a dry or moist lint-free cloth.
6. Wait until all the parts are dry before reconnecting the board and connectors.

Acceptable Usage *2.6*

The PSD/3 Board is designed as a slot board for BRUKER NMR spectrometers.

The slot for the board is on the rear side of the AQS/2 rack on the left (see ***Figure 3.1.***).

The board is connected to the AQS/2 backplane inside the rack and is connected outside via cables to the HPPR/2, external amplifiers, the BSMS wiring and the IPSO.

For more information about the AQS/2 rack refer to the manuals on the BASH 8.0 CD.

Installation 3

Usage of the Correct PSD Board 3.1

At the present time there are three PSD boards in use.

1. PSD P/N H9530
2. PSD/2 P/N H14107
3. PSD/3 P/N H14109

The PSD board P/N H9530 is for spectrometer systems where a CCU is configured as the SBS BUS MASTER in the rack.

The PSD board P/N H14107 is for spectrometer systems where a DRU is configured as the SBS BUS MASTER in the rack and no IPSO is used.

The PSD board P/N H14109 is for spectrometer systems with an IPSO.

Before Installation 3.2

Check if the correct PSD board is present ***"Usage of the Correct PSD Board" on page 11***

Before pluging/unpluging the board from the rack backplane switch off the AQS/2 rack.

Place in Spectrometer 3.3

The PSD/3 board must be situated in the left slot of the AQS/2 rack on the rear side see ***Figure 3.1.***

- The PSD/3 connector „HPPR“ is linked using cable P/N HZ10174 to the HPPR/2 back panel.
- The PSD/3 connector „HPPR PSU“ is linked by cable HZ10109 to the HPPR/2 back panel.
- The PSD/3 connector „AUX. IPSO“ is not used in the moment.
- The PSD/3 connector „PSD A1-6 is linked using cable P/N HZ10148 to the amplifiers (BLANKING 1-6).
- The PSD/3 connector „PSD B1-6 is linked using cable P/N HZ12502 to the amplifiers (BLANKING 7-8).
- The PSD/3 connector „EMERGENCY“ is linked using cable P/N HZ13617 to the IPSO.

- The PSD/3 connector „STATUS_INT“ is linked by cable P/N HZ13617 to the IPSO.
- The PSD/3 connector „TGPF0“ is linked using cable P/N HZ13635 to the BSMS wiring.

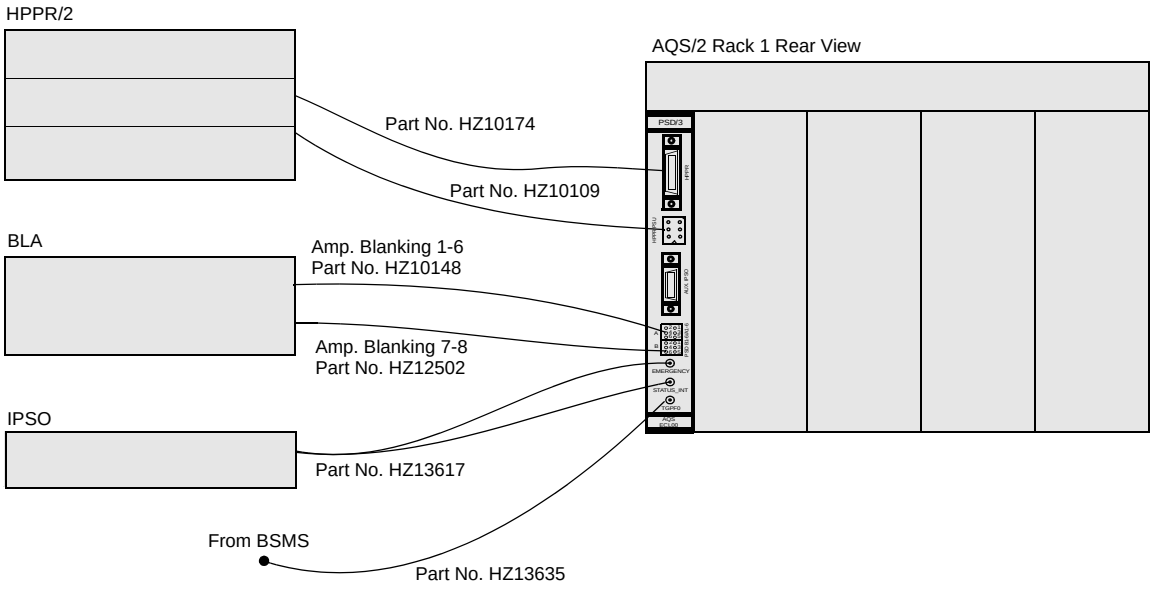

Figure 3.1. PSD/3 Wiring

Part Numbers *3.4*

Table 3.1. Part Numbers

Part Description	Part No.
PSD/3 board	H14109
Power supply/interface cable HPPR/2	HZ10174
Additional power supply cable HPPR/2	HZ10109
Cable to BLA’s (Blankings1-6)	HZ10148
Cable to BLA’s (Blankings7-8)	HZ12502
Cable to IPSO	HZ13617
Cable to BSMS	HZ13635

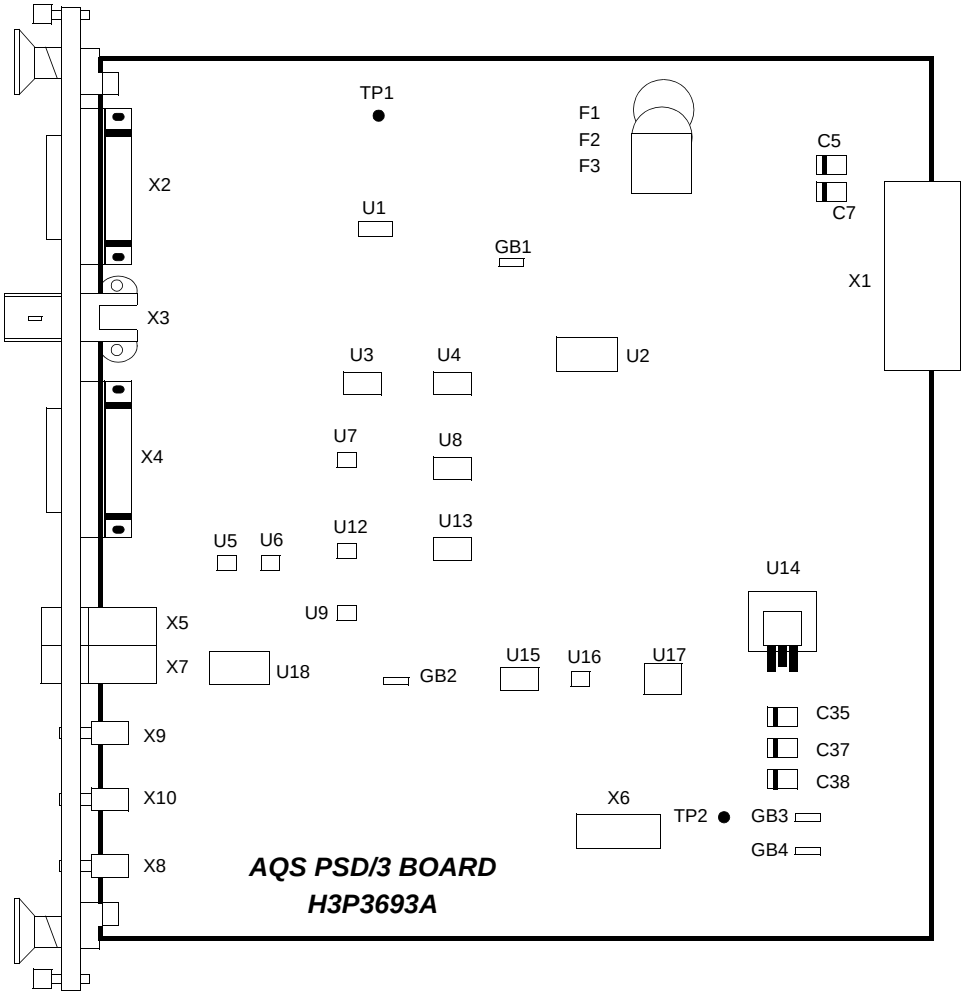

Figure 3.2. PSD/3 Board Schematic

Pinout Connectors

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HPPR/2 Connector 1 4.1

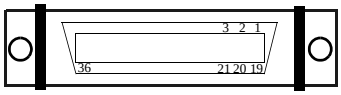

Figure 4.1. HPPR/2 Connector 1

Table 4.1. Pinout HPPR/2 Connector 1

Pin No.	Signals
1	HPPR_P19V_OUT
2	HPPR_P19V_OUT
3	HPPR_P9V_OUT
4	HPPR_P9V_OUT
5	$\overline{\text{HPPR\_STATUS\_INT}}$
6	HPPR_P9V_OUT
7	HPPR_P9V_OUT
8	HPPR_P9V_OUT
9	SBS_P12V
10	RXDP_1
11	TXDP_1
12	$\overline{\text{WUP\_1}}$
13	HPPR_GND
14	$\overline{\text{EMERGENCY\_STOP\_IN\_HPPR}}$
15	HPPR_GND
16	INTERLEAVE_INCR_OUT
17	LOCK_PP

Table 4.1. Pinout HPPR/2 Connector 1

Pin No.	Signals
18	RGP_HPPR_OUT
19	HPPR_N19V_OUT
20	HPPR_N19V_OUT
21	HPPR_GND
22	HPPR_GND
23	HPPR_GND
24	HPPR_GND
25	HPPR_GND
26	HPPR_GND
27	SBS_GND
28	RXDM_1
29	TXDM_1
30	SBS_GND
31	HPPR_GND
32	EMERGENCY_STOP_IN_HPPR
33	HPPR_GND
34	$\overline{\text{INTERLEAVE\_INCR\_OUT}}$
35	$\overline{\text{LOCK\_PP}}$
36	$\overline{\text{RGP\_HPPR\_OUT}}$

HPPR/2 Connector 2 *4.2*

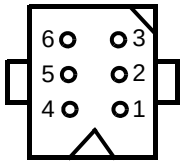

Figure 4.2. HPPR/2 Connector 2

Table 4.2. Pinout HPPR/2 Connector 2

Pin No.	Signals
1	SRING
2	HPPR_P9V_OUT
3	HPPR_N19V_OUT
4	HPPR_GND
5	HPPR_GND
6	HPPR_P19V_OUT

AUX. IPSO Connector *4.3*

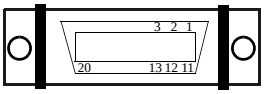

Figure 4.3. AUX. IPSO CONNECTOR

Table 4.3. Pinout AUX. IPSO Connector

Pin No.	Signals
1	EMERGENCY_STOP_IN_HPPR
2	EMERGENCY_STOP_IN_IPSO
3	EMERGENCY_STOP_OUT_IPSO
4	STATUS_INT_OUT_IPSO
11	$\overline{\text{EMERGENCY\_STOP\_IN\_HPPR}}$
12	$\overline{\text{EMERGENCY\_STOP\_IN\_IPSO}}$
13	$\overline{\text{EMERGENCY\_STOP\_OUT\_IPSO}}$
14	$\overline{\text{STATUS\_INT\_OUT\_IPSO}}$
19	GND
20	GND

PSD B1-6/A1-6 Connector *4.4*

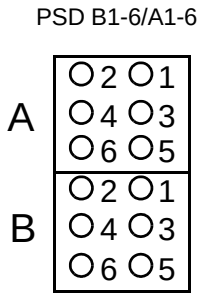

Figure 4.4. PSD B1-6/A1-6 Connector

Table 4.4. Pinout PSD B1-6/A1-6 Connector

Pin No.	Signals
A1	$\overline{\text{BLNKTR2}}$
A2	$\overline{\text{BLNKTR1}}$
A3	$\overline{\text{BLNKTR4}}$
A4	$\overline{\text{BLNKTR3}}$
A5	$\overline{\text{BLNKTR6}}$
A6	$\overline{\text{BLNKTR5}}$
B1	$\overline{\text{BLNKTR8}}$
B2	$\overline{\text{BLNKTR7}}$
B3	NC
B4	NC
B5	NC
B6	NC

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Notes: