

Upgrade 400 MHz NMR spektrometru

1. AV4400C AV4400C NMR CONSOLE AVANCE NEO 400 MHZ 1,0 ks

The AVANCE NEO system console electronics is housed within a stainless steel one bay or double bay cabinet for 19-inch format units providing RF shielding with highest immunity against DVB-T, ATSC, ISDB-T, etc. The cabinet offers enough space to accommodate various units like Bruker RF amplifiers etc.

The system console incorporates a state-of-the-art Ethernet ROUTER providing up to 14 TCP/IP based Ethernet ports for internal and external spectrometer devices such as sample changers, CryoProbe platforms, magnet control and monitoring equipment, Solid State NMR accessories, etc. It is equipped with a Bruker Power Distribution Unit (PDU) to enable software controlled console power-up and power-down via TopSpin.

A dedicated system control unit (SCU) containing an embedded processing CPU with 1TB hard disk drive allows versatile and flexible spectrometer control. It controls the overall timing of system for all RF channels, gradient channels, real time pulses, triggers, etc. Each RF channel provides a fully broad banded transmit and a fully broad banded receive channel (transceiver TRX1200).

Bruker system characteristics (AQS):

- 80 MHz system clock, 12.5ns timing resolution
- Synchronicity on all channels within 12.5ns
- Gradient control for all Bruker gradient amplifiers
- Up to 8 RF channels
- Up to 4 trigger inputs with 12.5ns resolution
- Up to 11 real time output controls with 12.5ns resolution

Bruker Smart Magnet System (BSMS) supports:

- Ultra-stable, ultra-low noise BO current source (ELCB)
- 2G Digital NMR Lock for 2H and/or 19F nuclei (L-TRX)
- Bruker Shim current sources (SCB20)
- Bruker SmartVT control for up to 4 independent VT channels
- Bruker SmartCoolers (e.g. BCU-I)
- Bruker Low Temperature accessories (e.g. LN2 Exchanger)
- Bruker High Temperature equipment (e.g. BVTE3900)
- Bruker High Resolution gradient amplifiers (e.g. GAB/2)
- Bruker RT Shim Systems and BST Upperparts

Bruker preamplifier system (HPPR) supports:

- Up to 8 RF preamplifiers
- Fully Multi-receive, no extra wiring/components
- Touch screen based human machine interface
- Accurate tuning and matching with factory calibrated preamplifiers
- Fully integrated automatic tuning and matching with ATM probes
- Probe identification (PICS) interface

2. AH3002 SHIM SYSTEM BOSS-3 SB PLUG

1,0 ks

Bruker Standard Bore (SB) Magnet System high performance Matrix Orthogonal Shim System (BOSS-3 SB). Designed for optimum homogeneity at low current and with low heat dissipation.

Features:

- 36 Matrix Shim Gradients
- B0 coil
- PT100 temperature sensor
- Identification coding (ID)

3. AH3007 SHIM UPPERPART BST SB

1,0 ks

Bruker Standard Bore (SB) Magnet System Sample Transfer (BST) for NMR sample insertion and ejection (SB Spinner supported).

Features:

- Built-in sample-up sensor
- Built-in sample spinning/sample-down sensor
- Prepared for shim system cooling

4. AH0243_01 SHIM CURRENT BOARD (SCB20) 2,0 ks

Shim Current Board SCB20 is a high precision, ultra-stable shim current board.

Features:

- 20 shim current sources
- 20Bit digital resolution each
- Shim current range +/-1A each

Depending on shim system type two units might be necessary

Compatible with all Bruker Orthogonal and Matrix shim systems (e.g. BOSS-3)

5. AH1015 VT Control Unit (BSVT)

1,0 ks

The Bruker SmartVT (BSVT) is a highly integrated gas flow system to control NMR sample lift (inject/eject) and VT temperatures within the probe.

Features:

- Digital temperature sensor resolution better than 5 mK
 - Excellent temperature stability of about 10 mK/K (*)
 - Supports various temperature sensors (e.g. thermocouple T or E, PT100)
 - Mass-flow based VT gas flow control and monitoring, up to 3000 l/h
 - Built-in sample freeze protection together with CryoProbes
 - Up to 4 independent heater channels (e.g. Flow probes)
 - High Temperature NMR ready (> 300°C with HT NMR probes)
 - Supports SmartCoolers (BCU) and LN2 Low Temperature accessories
 - Easy sample insertion with different kinds of spinner (ceramic, KEL-F, etc.).
 - NMR Thermometer: accurate in-tube sample temperature determination
- # (*) e.g. SmartProbe, depends on environment and probe type

6. AH1206_01 BSMS GAB/3 for Z Gradients 1,0 ks 0,00

BSMS GAB/3 for Z Gradients is a fast single channel gradient amplifier board prepared for pulsed field gradient shimming (TopShim) and single axis GRAdient enhanced Spectroscopy (GRASP). Its design offers offset-free operation without the need of blanking pulses.

Features:

- 10A max.
 - 16Bit resolution
 - Pulslength up to 50ms per second
 - Built-in pre-emphasis
- # TopShim uses lineshape optimization (see JMR 182(1), 38-48, 2006)
- # XYZ-gradient operation requires three GAB/2 units (see AH 1204)

7. BH3072 BSMS 2H Lock RF Unit (L-TRX) 1,0 ks

The L-TRX is a highly integrated 2H lock RF transceiver (transmit and receive) unit with incorporated 5W RF amplifier for field lock operation on deuterated solvents.

Features:

- Versatile DDS based 2H frequency RF generation
- Fast and accurate gradient shimming on 2H using TopShim
- Easy and reliable locking with complex deuterated solvents and this even in automation with e.g. Pyridine-d5
- NMR Thermometer: accurate in-tube sample temperature determination
- # Can be extended with 19F lock RF unit (BH1230) for 19F lock operation

8. BH2075 RF CHANNEL (TRX1200) 2,0 ks

The TRX1200 is a highly integrated NMR RF transceiver (transmit and receive) unit with built-in pulse program engine (Sequencer, NCO/DDS, Shapes, etc.).

Features:

- 5 to 1200 MHz (transmit and receive)
- 12.5ns timing resolution
- 12.5ns simultaneous setting of amplitude & phase & frequency -1GB sequencer waveform memory
- 1852 MHz high intermediate frequency (IF)
- up to 7.5 MHz spectral width
- digital resolution (effective dynamic range)
 - >17 Bit (SWH < 5 MHz)
 - >19 Bit (SWH < 1 MHz)
 - >23 Bit (SWH < 6 kHz)
- 240 MSPS /16 Bit ADC, Digital Down Converter (DDC)
- 960 MSPS DAC, Digital Up Converter (DUC)

9. BH3400 RF Amplifier BLABBH500/100 1,0 ks

The BLABBH500/100 is a linear double channel high RF power amplifier for X-nuclei, 1H (and 19F) observe and decoupling. It has a built-in ethernet interfaced, computer controlled RF amplifier safety with forward/reflected RF power monitoring and diagnostics.

Frequency ranges of BLABBH500/100 models are

Model	BB-Channel	H-Channel
200-600	15-600MHz (A1)	180-600 MHz (A2)

Features:

- RF power
 - A1: Min. 500W RF peak power (max. 25W CW)
 - A2: Min. 100W RF peak power (max. 25W CW)
- Pulse program controlled blanking

10. BH0264 HPPR HPLNA 1H Preamplifier 1,0 ks

The HPLNA 1H is a highly linear, low noise, GaAs FET transistor technology based preamplifier for 1H and 19F observe, 1H and 19F decoupling and 19F lock operation.

Features:

- Ultralow ~1.0 dB system noise figure
- Max. 4kW peak power RF capability
- Active transmit/receive switch
- Built-in RF power detector
- Factory calibrated for accurate tuning and matching

11. BH0243 HPPR 2H Preamplifier

1,0 ks

The HPPR 2H is a linear, low noise, GaAs FET transistor technology based preamplifier for 2H observe, 2H decoupling and 2H lock operation.

Features:

- Very low ~1.4dB system noise figure
 - Max. 500W peak power RF capability
 - Active transmit/receive switch
 - Fast, pulse program controlled mode switching
 - Built-in RF router for 2H lock and 2H observe
 - Factory calibrated for accurate tuning and matching
- # No external filters required

12. BH0269 HPPR XBB19F 2H PASS Preamplifier

1,0 ks

The HPPR XBB19F 2HP (2H pass) is a linear, low noise, GaAs FET transistor technology based preamplifier for observe and decoupling of nuclei from 57Fe up to 19F with built-in 1H Stop RF filter.

Features:

- Very low ~1.4dB system noise figure
 - Max. 500W peak power RF capability
 - Active transmit/receive switch
 - Factory calibrated for accurate tuning and matching
- # Designed for broad banded High Resolution NMR probes

13. BH0266 HR NMR RF FILTER 2H Stop

1,0 ks

2H Stop RF Filter to be used together with broad banded High Resolution NMR RT probes.

Features:

- Stop Band: 2H
- Pass Band: 19F - 75As, 17O - 57Fe

14. PCWIN PCWIN

1,0 ks

NMR Workstation (WINDOWS) Configured NMR Workstation for AVANCE NEO NMR spectrometer series.

Features (*):

- Intel Xeon E5-1620v4 (up to 3.8 GHz), Quad Core
- 16GB DDR4-2133 (2x8 GB) RAM
- NVIDIA Quadro K620 2 GB GFX graphics card
- 2TB 7200 RPM SATA HDD
- Integrated Intel 1-218 Gbit LAN (SPECT)
- Intel Ethernet I210-T1 PCIe NIC (NET)
- 9.5 mm Slim SuperMulti DVD RW 1st ODD
- USB US-KeyBoard and USB mouse
- Preinstalled Windows 10 (64 Bit) and TopSpin 4.x (w/o license)

(*) Configuration can change without prior notice

(*) Possibility to replace OS for Alma Linux

15. AP2521 NMR WS MONITOR 24" LCD 1,0 ks

NMR WS MONITOR 24" LCD
24" TFT Monitor for NMR Workstations.

16. SHTS000-04 TopSpin 4.x Basic license 1,0 ks

TopSpin4 NMR Software - Acquisition and Processing License.

This software offers the full operating capability for spectrometer control, data acquisition (arbitrary dimensions) and processing (1D, 2D, 3D, 4D / nD). Capability for NMR data for WINDOWS, LINUX or MAC.

Features:

- NMR acquisition in arbitrary dimensions, with guided acquisition setup
- NMRGuide for training of users in use of 1D and 2D, 132 experiments with NMR literature library
- IconNMR automation interface
- NMR data processing (1D, 2D, 3D, 4D and 5D)
- Processing of Non Uniformly Sampled (NUS) data for 2D spectra (basic version)
- Integration and deconvolution of NMR spectra
- NMRSIM and DAISY for experiment simulation and 1D and 2D spectra prediction
- Relaxation analysis (T1/T2), solid state lineshape analysis
- TopSpin integrated structure editor

License key only (software available for download from our webserver)

17. AH0039 BSVT Adaptor Type-T (standard probes) 1,0 ks

BSVT Adaptor Type-T (standard probes)

TC-T VT Adapter for NMR probes with Thermocouple type 'T' temperature sensors.

Features:

- Probe Thermocouple type T interface (2x)
 - Probe heater interface
 - Probe heater safety sensor interface
- # For Standard Temperature NMR probes (up to 200°C)
Not required for iProbes (built-in VTA)

18. AH0047 VT adaptor: Johnston to Ball (old probe) 1,0 ks

Johnston style VT gas plug converter for old probeheads having 'ball' style VT gas connectors. Enables such probeheads to coupled to SmartCoolers (e.g. BCU-I) having Johnston VT gas interface.

19. LS_PRODIAGNOSE LABSCAPE PRODIAGNOSE 1,0 ks

Allows the connection of NMR systems to Bruker's AutoDiagnose platform which currently offers the following features*:

- Health Status Overview over all connected systems at a glance
- System Configuration
- Integrated cryogen level Overview
- Integrated platform notifications
- Email notification free trial
- Easier root cause analysis for technical issues

For AvNeo spectrometers, TopSpin 4.1.0. or higher is required. For cryogen notification features, TopSpin 4.1.4. or higher is required.



For the connection of NMR systems to Bruker's AutoDiagnose platform, the customer has to ensure that the spectrometer workstation is connected to the Internet and all security settings are adapted to allow communication via a remote session.

The connection to and use of Bruker's AutoDiagnose platform is subject to the ""AutoDiagnose Terms and Conditions of Use"" which must be accepted during the registration process.

*Bruker's Autodiagnose is subject to continuous developments and the feature scope may vary over time.

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