



Bruker BioSpin Corp.

15 FORTUNE DRIVE
BILLERICA, MA 01821-3991
TEL (978) 667-9580
FAX (978) 667-0985

QUOTATION	
Number	C-1010-5433
Delivery	6 - 9 Months ARO

TO: Dr. Song-I Han / Dr. Jerry Hu
Department of Chemistry and
Biochemistry
University of California
Santa Barbara, CA 93106

Date **October 22, 2010**
Sales Representative **Dr. Linda S. Okerlund**

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ITEM	OPTION #	DESCRIPTION	PRICE
		AVANCE III™ 300 CONSOLE HIGH PERFORMANCE DIGITAL NMR SPECTROMETER CONSOLE FOR SOLIDS AND IMAGING	
		<u>SHIM/LOCK SYSTEM</u>	
1.		Bruker Smart Magnet System (BSMS™) shim and Digital Lock™ control, including Digital Frequency Generation, Digital Quadrature Receiver, computer-controlled lock regulation system and ultra-stable, low current noise Shim Control Boards (SCBs).	
2.		BFG150/90/S14 (TOSI) shim system for use in microimaging experiments. Outer diameter 150 mm, inner diameter 90 mm. To be mounted permanently in the magnet. Includes shim coils Z2, Z3, Z4, XZ, YZ, YZ2, X2-Y2, Z(X2-Y2), ZXY.	
3.		BST (Bruker Sample Transport) upper shim stack. Enables high flow rates for VT gas and includes integral sensors for communication with the BSMS.	
		<u>STAINLESS STEEL RF CABINET</u>	
4.		19" rack mounted cabinet with rf shielding and full front access to all sub-assemblies and cabling.	
		<u>AMPLIFIERS & RECEIVER</u>	
5.		Second Generation Digital Quadrature Detection Receiver (2G-DR) with integrated high performance ADCs. Provides very high dynamic range, high digital resolution and large bandwidth digital filtering.	
6.	BH3081	BLAH300, 1H/19F linear amplifier for 1H/19F observe and homo/heteronuclear 1H/19F decoupling; 300 Watt linear pulse power, 10 Watt linear CW with all operations under computer control. Price valid up to 600MHz on initial order only.	
7.	BH2087	BLA2X500 dual linear broadband amplifiers for X-nucleus pulse and decouple with ultra-fast blanking and rise/fall times; 500 Watt linear pulse power each, 30 Watt linear CW, all operations under computer control.	



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		<u>FREQUENCY GENERATION, DIGITAL CONTROL & ACQUISITION</u>	
8.		Timing Controller provides exact timing and full flexibility in data acquisition with 12.5 nsec timing resolution.	
9.		RF generation including Signal Generation Unit (SGU) for 3 channels, for generation of phase, amplitude, and frequency using Direct Digital Synthesis (DDS) covering a frequency range from 6 to 640MHz. Provides <0.01° phase settability and <0.005 Hz frequency resolution. Includes 16 MB high performance wave form memory for programming of experimental sequences including ultra-fast pulse programming, pulse shaping and composite pulse decoupling executable synchronously or asynchronously.	
10.		Digital Receiver Unit (DRU™) with integrated high performance digital filters and Digital Quadrature Detection (DQD™) that virtually eliminates quad images and spikes and 60 Hz interference in experiments for large sweep widths.	
		<u>PRE-AMPLIFIERS</u>	
11.		Multilink™ HPPR/2 preamplifier, including: <ul style="list-style-type: none"> • ¹H preamplifier • ²D preamplifier (for lock and ²D observe) • BB preamplifier • Control unit • Built-in tune/match display 	
12.	BH0255	High Power ¹ H/ ¹ 9F and broadbanded X-nucleus Multilink™ preamplifier modules with exchangeable matching units and filter boxes.	
		<u>INDUSTRY STANDARD HOST WORKSTATION</u>	
13.		Linxi Workstation with the following configuration <ul style="list-style-type: none"> • Intel Core2 Duo 2.2GHz Processor • 4 GB memory or better • 19 inch Flat Panel monitor • 250GB Hard Drive or larger • 16X max DVD±RW/CD-RW drive • 2 X LAN 10/100/100 ethernet adapters • Cent OS Linux • One year manufacturers warranty on PC • Acronis Disk Imaging Software 	



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14.		Bruker TopSpin software package is included for acquisition and processing of 1D, 2D, 3D and 4D NMR data, including PLOT, ICON-NMR, NMR Guide and NMR-SIM. Includes media, on-line hypertext manual and single license.	
15.	H9764S3X5	Package of 5 Bruker BioSpin TopSpin 3 NMR Processing additional licenses for processing of 1D, 2D and 3D NMR data, including PLOT. Includes media, on-line hypertext manual and single floating license. Available for Linux(X=L) or Windows (X=W) operating systems.	
<u>VARIABLE TEMPERATURE</u>			
16.	AH0001	BVT-3000 digital VT control unit, with Eurotherm control module, thermocouple and heater (one each). All functions under full computer and front panel control. Temperature accuracy +/- 0.1 °C (with +/- 1.0 °C room temperature stability). Temperature accuracy +/- 0.01 °C with optional BTO-2000. Maximum temperature 200 °C (400 °C with optional BVTB-3500 booster). Note: ceramic sample spinners are required for high resolution VT operation. A BVT-3000 low temperature accessory is required for operation near or below ambient temperature. <i>For use with existing low temperature accessories.</i>	
17.	AH0041	B-VTB 3500 Power Booster for WVT CP-MAS Probes. Allows experiments at the upper temperature range of these probes by boosting heater circuit input to 500W. For use with BVT Variable Temperature control units, only.	
18.	AH0009	BCU-X, eXtreme pre-cooling and stabilization accessory, for ultra-precise temperature control from near ambient conditions down to -50oC sample temperature. <i>NOTE: Requires nitrogen gas or compressed air with a dew point below -100°C.</i>	
<u>ADDITIONAL OPTIONS</u>			
19.	BH0354	MicroImaging Accessory for SWB Systems, including: a. One-bay imaging cabinet b. Gradient Controller c. Gradient water-cooling unit d. GREAT Master Unit e. Gradient amplifiers, X,Y,Z Copley 231 (100A/150V), including 150V power supply f. B0 Compensation Unit [BH0356] g. ParaVision Imaging software package (requires additional licenses for special applications such as DTI, SPIRAL, parallel imaging)	



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20.		Three additional data processing licenses for ParaVision.	
21.	AH0220	MAS-II Microprocessor-based MAS control unit with spinning rate counter, precision regulating valves, pressure stabilization and sample eject. Provides automated spin up/down and regulation of the spinning speed to < 0.1%. May be controlled from the front panel or directly by the system computer.	
		<u>SUPPORT AND INSTALLATION</u>	
22.		Complete system installation, including magnet, by qualified personnel. Cryogens are not included. Rigging equipment needed for the assembly of the magnet to be provided by the customer. Standard samples will be provided by Bruker BioSpin on a temporary basis for meeting specifications.	
23.		Complete set of system documentation and manuals provided in BASH CDROM format (printed documentation available at a surcharge)	
24.		2 days on-site applications training, to be provided by imaging and diffusion specialist. Must be used within one year of system delivery.	
25.		Eight (8) days tuition to Bruker BioSpin training courses. Tuitions must be used within one year of system delivery.	
		TOTAL PACKAGE PRICE	
		Freight (approximately, to be prepaid and added to invoice)	