



Agilent ProPulse 500 MHz and 600 MHz NMR Systems

Data Sheet

Simply Better

- **Highest quality data:** From an ultra-compact footprint
- **Confidence in results:** VeriPulse keeps system optimized and proves it
- **Sample to spectrum:** Fully automated, from small molecule applications to BioNMR
- **Spectrum to spreadsheet:** Automated by CRAFT
- **Unrivaled ease-of-use and reliability:** Lets you put the focus on your science



Introduction

The Agilent ProPulse NMR System is the platform of choice to deliver simplicity and flexibility for liquids NMR applications. The flexible ProPulse system produces industry-leading spectral data quality for pharma, academic, chemical, and food science applications. The ProPulse console is available with a compact Agilent 500 MHz or 600 MHz cryogen-efficient magnet, or can be used with a wide range of existing magnets.

Equipped for Productivity

Every ProPulse system is configured with an Agilent workstation and VnmrJ software to provide enhanced capabilities within the StudyQ, Protocols, and ViewPorts to make data acquisition and processing easier than ever. DirectDrive and DirectDigital RF architecture and Agilent shim technology ensure optimal data quality for every sample, with push-button simplicity. The remote status tablet conveniently lets you monitor the system and tuning away from the workstation. With room for expansion, the console is well-positioned for future upgrades.



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System Includes

- 500 MHz or 600 MHz ProPulse console
- PC data station, monitor, and remote status tablet
- Single-seat VnmrJ software license for spectrometer operation
- Superconducting Agilent NMR magnet
- Set of pneumatic anti-vibration magnet support legs
- Magnet-mounted digital cryogen level display
- Liquid helium and nitrogen transfer lines
- Room temperature shim set

ProPulse Console Specifications

RF channels	
RF architecture	DirectDrive 2
Number of channels	Two plus lock
Highband channel	¹ H, ¹⁹ F
Lowband channel	³¹ P – ¹⁰⁹ Ag
Highband amplifier power, nominal	60 watts pulsed
Lowband amplifier power, nominal	300 watts pulsed
Waveform generator	30 MB memory
Timing resolution	12.5 ns
Minimum delay between modulated pulses	0
Minimum event time, phase, amplitude	25 ns
Phase settling time	25 ns
Phase resolution	0.0055 degrees
Fine amplitude settling time	25 ns
Fine amplitude control	60 dB in 65535 linear steps
Coarse amplitude control	100 dB in 0.5 dB steps
Base frequency resolution	0.1 Hz

Digital receiver	
Digitizer/max oversampling rate	14 bit at 80 MHz, eff. 21 bit at 5 KHz
Maximum spectral width	5 MHz
Data compression, digital filtering	On-the-fly
Digital dead-time	0.4 μs
Quad artifacts	None

Lock	
Lock capture	Quad detection, simultaneous sampling
Frequency	2H frequency ± 1 MHz
Lock sample and hold	Pulse sequence controlled

PFG	
Waveform generator	Included
Gradient power	10 amps
Controller memory	64 MB memory per channel, 30 MB memory for shaped pulses
Timing resolution	12.5 ns
Amplitude control	16 bit
Minimum gradient pulse length	2.4 μs

Temperature control	
Standard	Ambient to 150 °C*
Optional VT gas preconditioner	To –80 °C* or –40 °C*
Optional EZVT (order option 010)	To 0 °C

* Specific temperature range will depend on probe and automation configuration.

Host computer	
Operating system	Linux
Software	VnmrJ 4.1 and later

VeriPulse automated tests and calibrations	
1D and 3D shimming	Automated
RF calibrations	Automated
Gradient profile and recovery tests	Automated
¹ H and ¹³ C lineshape tests	Automated
Sensitivity tests	Automated, 5 nuclides
Console performance tests	Automated
Magnet drift test	Automated
Quantitation calibration	Automated, proton channel
Lock frequency adjustment	Automated, admin user only

www.agilent.com/chem/propulse

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