



The DISCOVERY 3™ is an integrated console designed especially for Solid-State NMR based upon REDSTONE™ technology. The console includes everything needed to interface to any magnet and solids probe - from computer to cables to duplexing network. Other options include a variable temperature unit, gradient control system and digital lock system. Multiple frequency ranges covering 2 kHz to 3.5 GHz are available.

Modular System Architecture

The DISCOVERY 3 uses a distributed architecture of individual function clusters interconnected with a 10 Gbit/sec interface and USB 2.0. Each transmitter, digital receiver and gradient system is packaged as an individual cluster. As a result of the modular design, Tecmag can offer the DISCOVERY 3 in a variety of configurations, so you get what you want, and only what you want. With regular software updates and future expansion capabilities owing to a modular cluster design concept, the Discovery is the ideal console for a new spectrometer or a replacement console.

Advanced Technology ⇒ Performance & Value

The DISCOVERY 3 offers the highest digital RF performance available: fast simultaneous phase, amplitude and frequency control; 3rd generation digital receiver for large bandwidths and high dynamic range; together with the EM-III advanced technology pulse programmer and linear RF amplifiers with up to 20% duty cycle and up to 300 ms long pulses. These new capabilities result in the fastest NMR systems available and allow the most demanding solid-state NMR experiments to be implemented.



USB driven Function Clusters, such as Transmitters, Receivers and other Functions, offer unprecedented speed and scalability.

DISCOVERY 3 Standard Features

- Up to 128 transmitter channels with ns phase, amplitude and frequency control
- X-channels: broadband 1 kW linear RF power amplifiers
Optional: 2 kW RF amplifiers
- ¹H/¹⁹F-channels: 500 W linear RF power amplifiers with 300 ms long pulse and < 0.5 dB droop
Optional: 1 kW RF amplifiers
- Wideband digital receiver with 50 MHz digitizer, 12.5 MHz bandwidth and < 1 us receiver recovery time
- 24 Channel room temperature shim power supply with software matrixing
- MAS spin-speed controller with control up to 100 kHz
- Multi-channel RF duplexing network automatically switches between nuclei
- Rotor synchronization module (RSM™)
- TNMR™ software site license for Windows 7 Pro computers
- NMRscripts® for automation