

MRI Console

1 mT - 14 T
(40 kHz - 600 MHz)



RS²D

REINVENT
SYSTEMS
FOR SCIENCE
& DISCOVERY



SEE THE DIFFERENCE.

Applications

Compact electronic design powered by the Cameleon4™

A highly configurable, and flexible console for clinical (humans), and preclinical imaging (non-humans).

Cameleon4

Configurations

- 2 Transmitters
- 4 to 16 high-rield Rx channels (5 - 600 MHz)
- 4 to 8 low field Rx channels (40k - 25 MHz)
- Multi-nuclear capability

Event and timing

- Main signal clock: 12.8 ns / 78.125 MHz
- Gradient signal clock: 5.213 us / 191.82 kHz

TX channels

- Amplitude control: [0 - 100%] 12 bits + 64 steps of 1dB attenuation
- Frequency resolution: 568 uHz
- Frequency offset resolution 0.5821 Hz
- Phase resolution: 16 bits
- Min pulse time : 115.6 ns

RX channels

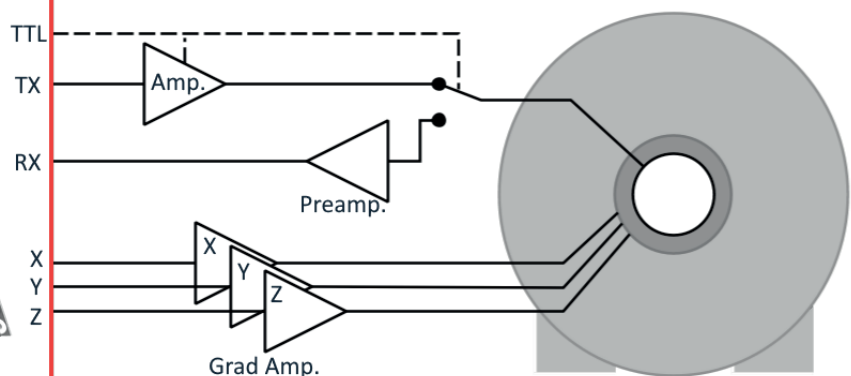
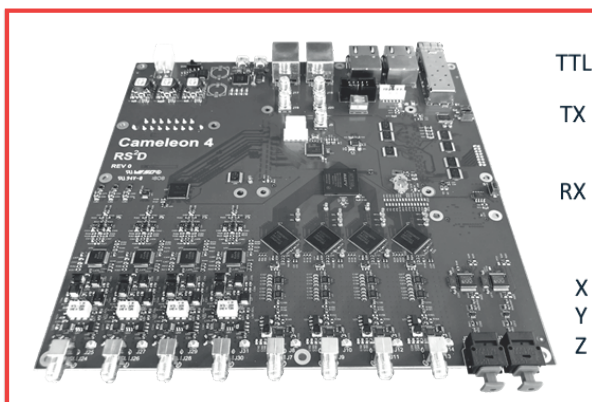
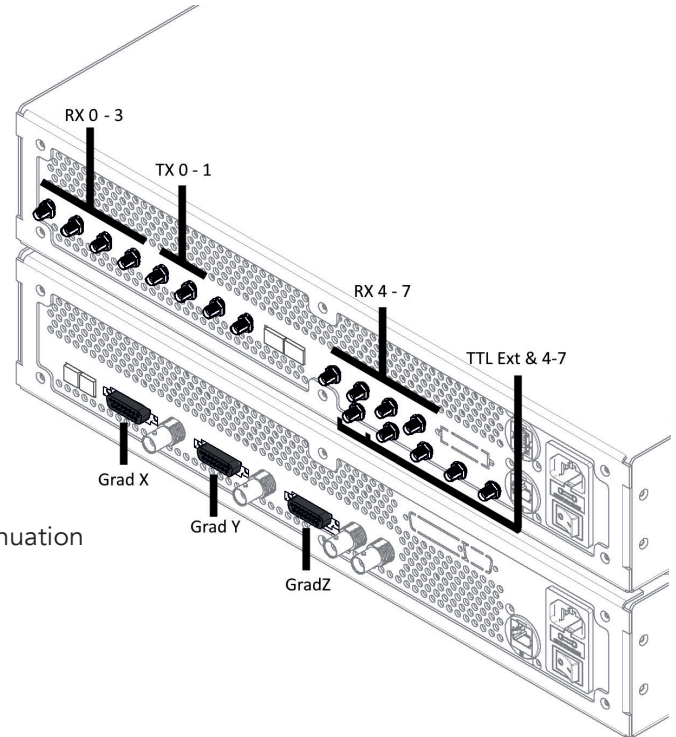
- Bandwidth (spectral width) range: 149 Hz - 2.44 MHz
- Adjustable receiver gain: 0 to 60 dB

Gradient channels

- 24 bits resolution / bipolar +-10 Vmax amplitude control
- Analog output: Sub D15 connector compatible with various amplifiers: PCI, IECO (Enable control)
- Digital optical output to interface PCI D-series amplifier

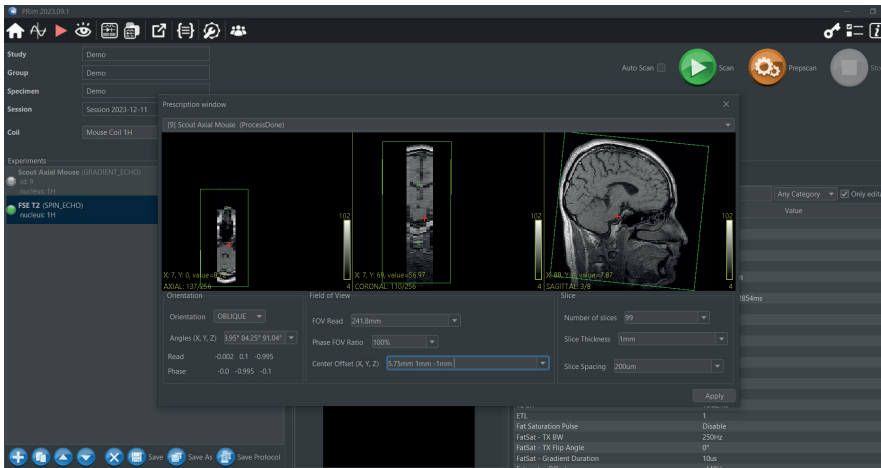
GPIOs output

- 4 TTL output and 1 input for sequence gating



MRI software

All-in-one software



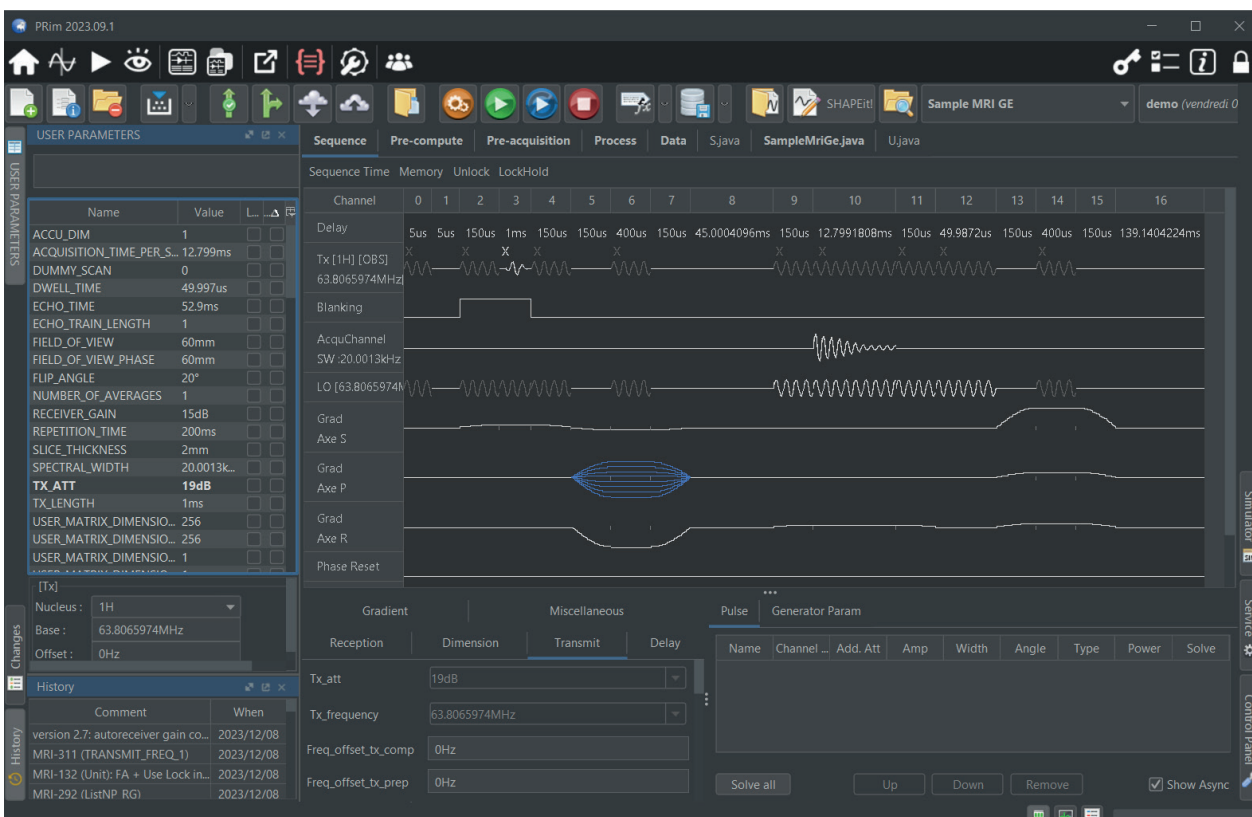
- >Patient registration
- >Calibration and acquisition
- >Processing and viewer
- >Storage and export
- >Protocols and pulse sequence libraries
- >Pulse sequence development

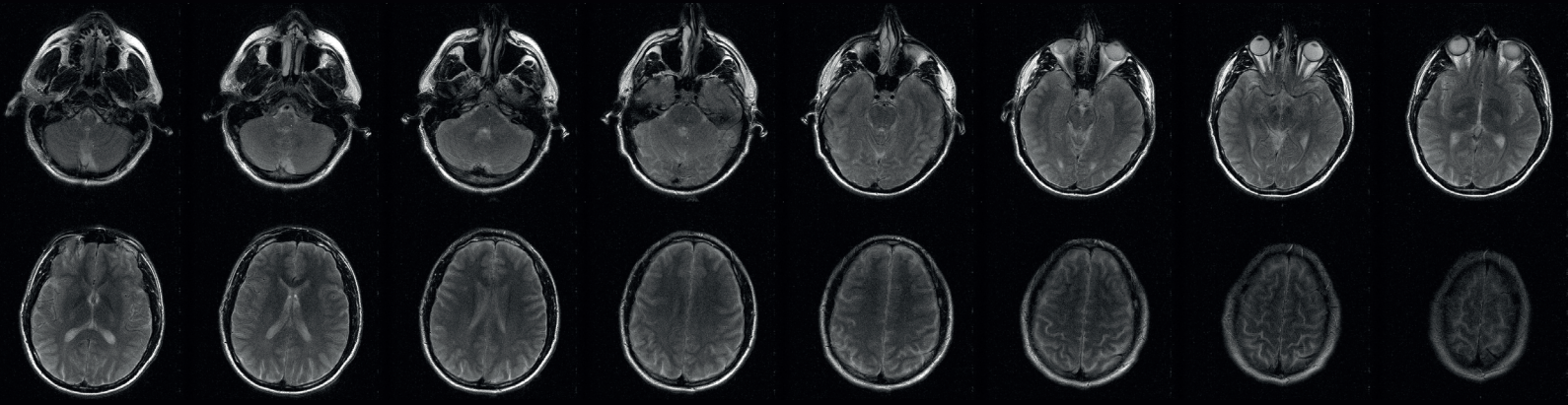
Sequence development

- Integrated development environment
- Graphical and intuitive sequence editor
- Embedded with Java code layer for pulses calculation
- Advance features for complex trajectory patterns
- Integrated **git-versioning** with graphical comparator

Driver

- Console control from third party software
- Control through sockets compatible with all programming languages
- XML based messages exchanged through three different sockets.
- Access to acquisition library





The MRI console is a modular spectrometer with a wide range of applications, including academic, industrial, and medical at various field strengths.

RS²D proposes services and solutions for developing pulse sequences, MRI architecture designs, and complete systems.

2D Spin Echo sequence / Fast Spin Echo sequence

T1, T2, PD weighted
 Inversion recovery sequence
 Saturation band
 Fat saturation
 Multi-echo T2 map
 T1 & T2 maps
 FLAIR, STIR

3 Points Dixon FSE sequence

Fast Spin Echo sequence 3D

T1, T2 weighted

Diffusion SE EPI

Diffusion weighted
 Diffusion tensor imaging

2D/3D Gradient echo sequence

Spoiled
 Fully rewind
 T2* Weighted
 Saturation band
 Fat saturation
 In-and out of phase
 Flow compensation
 T2* mapping
 SWI

GRE EPI

BOLD imaging

Time of flight sequence (TOF 2D / 3D)

TOF 3D multislabs
 Flow compensation
 Travelling pre-saturation bands

Ultra-short echo time (3D UTE)

SingleVoxel spectroscopy (SVS)

Preclinical cardiac

Cine cardiac black blood (preclinical)
 Cine cardiac (preclinical)



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