

Product Data

No. MPDMR0261EA

APPLICATION

This package is optional for the Vantage Titan 3T systems. Proton spectroscopy provides spectral and metabolic information for enhanced diagnostic confidence in neuro examinations and is fully integrated in the imaging routine.

FEATURES

- Single voxel spectroscopy.
- Data acquisition with Spin Echo and Stimulated Echo.
- Data acquisition, processing and display is performed at the operator console.
- Display of post-processed spectrum with peak information.
- Spectroscopy data and locator images can be printed to film and stored on the system hard disk, MOD or DVD.
- Automatic adjustments.
- The Volume of Interest (VOI) can be set up on the locator MR image through the graphic user interface.
- MR images of arbitrary orientations can be used for the locator.

CONFIGURATION

- Software
- Operation manual
- Phantom

PERFORMANCE SPECIFICATIONS

MRI system

- Field strength: 3 T
- Target nucleus: ^1H (Proton)
- Target anatomy: Head
- RF coil: QD Head coil, Circular coil, Atlas SPEEDER™ Head can be used.
- Data acquisition: Single voxel
 - Single voxel method
 - Pulse sequence: Spin Echo, Stimulated Echo
 - Repetition time (TR): 1,500 ms to 30,000 ms
 - Echo time (TE)
 - Spin Echo: 25, 136, 272 ms
 - Stimulated Echo: 10, 20 ms

- Voxel orientation: Orthogonal, oblique
- Voxel size: Min. $10 \times 10 \times 10$ mm, variable
- Number of Acquisitions (NAQ): Max. 2048, variable
- Voxel localization: Setting ROI on the arbitrary MR image
- Prescan (Automatic): Transmitter gain control
Local shimming
Center frequency
Water suppression (flip angle optimization)
Receiver gain
- Data processing
 - Receiver gain correction: Auto
 - Baseline correction: Auto
(Elimination of residual water)
 - DC offset correction: Auto
 - Filtering: Auto (Exponential filters)
 - Fourier transformation: Auto
 - Phase correction: Auto
 - Curve fitting: Auto
 - Statistical processing: Measurements of peak, area, and area ratio to creatine (Cr)
 - Scaling: Y-axis (signal intensity),
X-axis (frequency)

The following processings are also possible with user interface.

- Baseline correction: Polynomial fitting
- Manual phase correction
- Display
 - Post-processed spectrum
 - Peak information
 - ROI for reference: ROI display on the locator image
- Data management (archive)
 - Hard disk
 - External MOD or DVD
- Print to film
 - MR images
 - Spectroscopy data

INSTALLATION CONDITIONS

Power requirements

Power is supplied from the MRI system.

Ambient conditions

Complies with the conditions recommended for the MRI system.

MASS

Unit	Mass (kg)
PROTON SPECTROSCOPY PACKAGE	Approx. 0.5

DRAFT



TOSHIBA MEDICAL SYSTEMS CORPORATION

<http://www.toshibamedicalsystems.com>

©Toshiba Medical Systems Corporation 2010 all rights reserved.
Design and specifications subject to change without notice.
2010-2 TME/KI

Toshiba Medical Systems Corporation meets internationally recognized standards for Quality Management System ISO 9001, ISO 13485.

Toshiba Medical Systems Corporation Nasu Operations meets the Environmental Management System standard, ISO 14001.

Made for Life, Atlas SPEEDER, and Vantage Titan are trademarks of Toshiba Medical Systems Corporation.