

APPLICATION

This system is used to acquire images for specific cardiac phases of a patient in CT scanning for the chest, especially the heart and its surrounding regions.

The applicable CT systems are shown below.

CHEG-005A/1

SYSTEM MODEL	
Aquilion ONE	TSX-301A/2
Aquilion	TSX-301B

CHEG-005A/2

SYSTEM MODEL	
Aquilion ONE	TSX-306A/1-3
	TSX-305A/1-6
	TSX-301C/1-8
	TSX-301A/4
Aquilion Precision	TSX-304A/1-3

Note: Some systems may not be available in your country or region. Please check with your sales representative.

FEATURES

- Minimizes variation in the target structures between images due to cardiac motion.
- Minimizes motion artifacts.
- Reconstruction for specific cardiac phases can be performed for raw data with ECG information.
- The ECG waveform data can be observed and the R-wave trigger position can be edited.
- The modulation and control (ON/OFF) of X-ray output can be performed according to the ECG.
- Cardiac phases with minimal motion are reconstructed by using imageXact or phaseXact.
- Exposure dose can be reduced while maintaining good image quality obtained by ECG-gated helical reconstruction. (^{SURE}Cardio Prospective)

COMPOSITION

- Media.....1 set
- Manuals.....1 set

Note: The configuration of this system does not include the ECG. The ECG specified on the next page must be supplied by the user.

FUNCTIONS

ECG-Gated Scan and Reconstruction

- Scanning can be performed according to the ECG signals. The following scan modes are available.
 - Conventional scan (S&S)
 - Volume scan
 - Dynamic volume scan
 - Helical scan*
- *: Including 160 detector row helical scan (option).
- X-ray intensity can be modulated according to the ECG signals during continuous scanning.
- The ECG-gated scan conditions can be specified in the scan plan.
- If scanning is performed over a wide range of cardiac phases, the cardiac phase to be reconstructed can be specified at the time of reconstruction.

phaseXact

- Motion map data (which contains cardiac motion information for the phases in each couch position) is generated beforehand and cardiac phases with minimal motion are automatically detected based on this data to perform reconstruction.

imageXact

- The optimal cardiac phase to be reconstructed can be searched and selected by observing multiphase cardiac images.

^{SURE}Cardio Prospective (Helical)

- Helical pitch and ECG dose modulation (X-ray ON/OFF) can be easily set based on ECG/heart rate.
- If the heart rate varies during scanning, ECG modulation automatically adjusts to allow proper image acquisition.
- At the time of reconstruction retry, the phases to be reconstructed are displayed according to the actual X-ray exposure timing.
- phaseXact can be used to automatically set the best phase(s) for reconstruction.

Others

- The timing of the specified cardiac phase corresponds to the temporal center point of the images.
- The ECG can be referred to and edited after scanning is completed.

SPECIFICATION REQUIREMENTS FOR THE ECG

Standards

The ECG must satisfy Medical Electrical Equipment General Requirements for Safety, IEC60601-1 or equivalent safety standards. In addition, it must comply with the standards of each country.

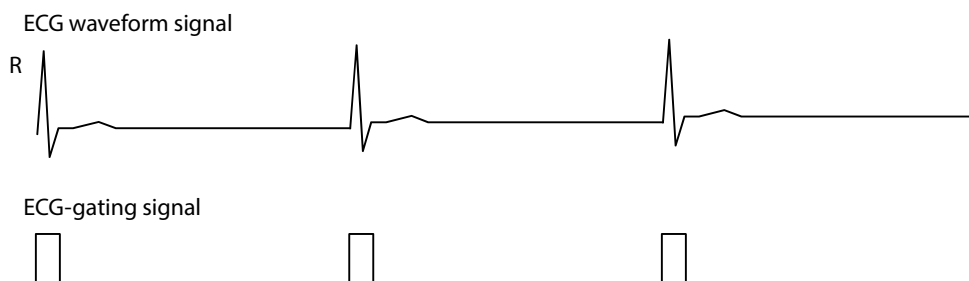
Specifications for connection (CT system side)

The ECG should be able to output ECG-gating signals.

Pin No.	Signal name	Pin No.	Signal name	Pin No.	Signal name
1	ECG waveform signal	6	(Spare)	11	Digital GND
2	(Spare)	7	NC	12	NC
3	Analog GND	8	NC	13	NC
4	Digital GND	9	NC	14	NC
5	ECG-gating signal	10	Analog GND	15	NC

ECG waveform signal: -5 V to +5 V. No-signal status is "0 V".

ECG-gating signal: TTL compatible, high level at time of R-wave



MASS

- Mass: 0.1 kg (0.2 lb)

POWER REQUIREMENTS

This system is mounted in the console and the gantry, and power is supplied from the CT system.

AMBIENT CONDITIONS

Same as those for the CT system. The connector to connect the ECG is located in the lower part of the rear of the gantry.

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

Canon Medical Systems Corporation meets the Environmental Management System standard ISO 14001.

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