

Perfusion 2

CardIQ SnapShot Option


**Segment, Burst and Burst Plus modes
Please refer to the operator documentation for complete
instructions.**

LightSpeed LS2002 – CardIQ SnapShot Option

Performing a Cardiac Scan

Patient Prep

1. Explain the scan to the patient
2. Position patient on table with arms raised above head
3. Place the leads on the patient
4. Practice the breathing instructions (*hyperventilation*)
5. Check the heart rate and determine protocol to be used (*either SnapShot Segment, Burst or Burst Plus*)
6. Inform the patient of the contrast injection



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Performing a Cardiac Scan

4 Steps for Cardiac CTA Exam

1. Acquire Scouts and monitor heart rate
2. Acquire a helical localizer or SmartScore series to determine start and end locations (optional) and monitor the heart rate
3. Acquire a Timing bolus to determine the prep delay for the Cardiac scan and monitor the heart rate
4. Determine the heart rate for the Cardiac exam, choose the correct protocol (Segment, Burst or Burst Plus) & Acquire the Cardiac CTA exam

LightSpeed LS2002 – CardIQ SnapShot

Option

Scan Type

Cardiac Helical - allows the system to select a pitch lower than regular helical scanning

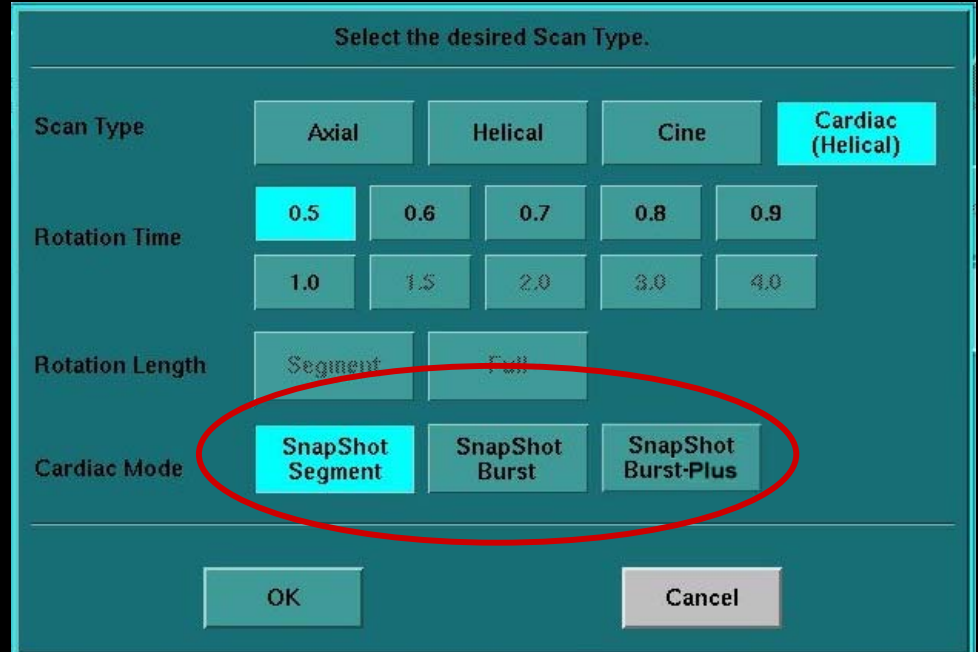
Cardiac Mode - allows the system to reconstruct the images with the SnapShot Segment, SnapShot Burst, SnapShot Burst-Plus reconstruction

Mode Selection will be based on heart rate.

Select the desired Scan Type.

Scan Type	Axial	Helical	Cine	Cardiac (Helical)	
Rotation Time	0.5	0.6	0.7	0.8	0.9
	1.0	1.5	2.0	3.0	4.0
Rotation Length	Segment	Full			
Cardiac Mode	SnapShot Segment	SnapShot Burst	SnapShot Burst-Plus		

OK Cancel



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- Decision matrix for scanning modes

Heart Rate 40-60 BPM	SnapShot Segment	1 sector recon mode (single heart beat)
Heart Rate 61-75 BPM	SnapShot Burst	2 sector recon mode (up to 2 heart beats worth of data)
Heart Rate 76-90+	SnapShot Burst Plus	3-4 sector recon mode (up to 4 heart beats worth of data) Requires a stable heart rate (within 10bpm). If not stable use SnapShot Burst Mode.

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CardIQ SnapShot Box

- *Heart Rate Monitoring ON* - monitors the heart rate and automatically selects the pitch for *Shot Segment*
- *R to R Interval* - Displays the patient heart rate
- *R-Peak Delay - 75%*

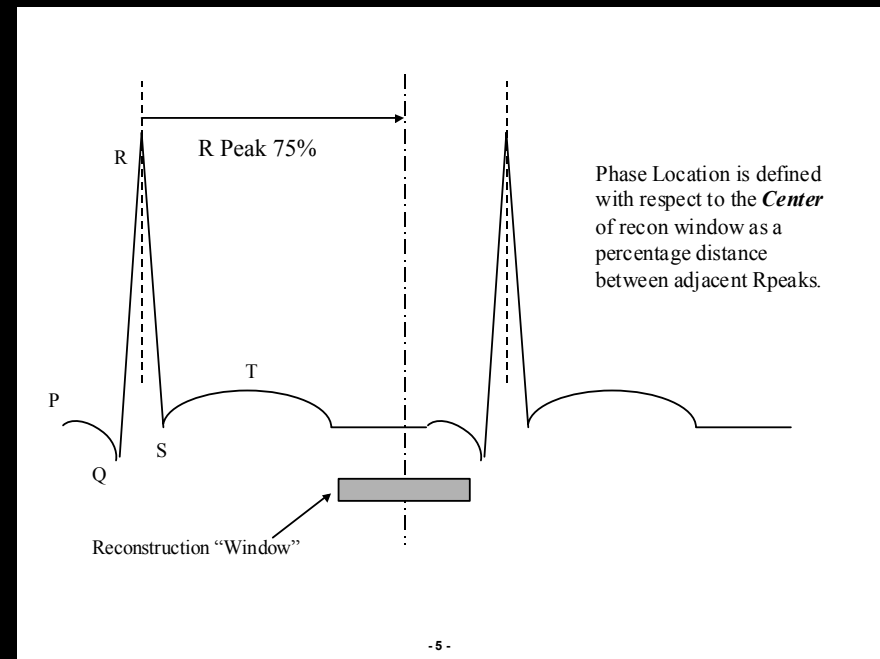
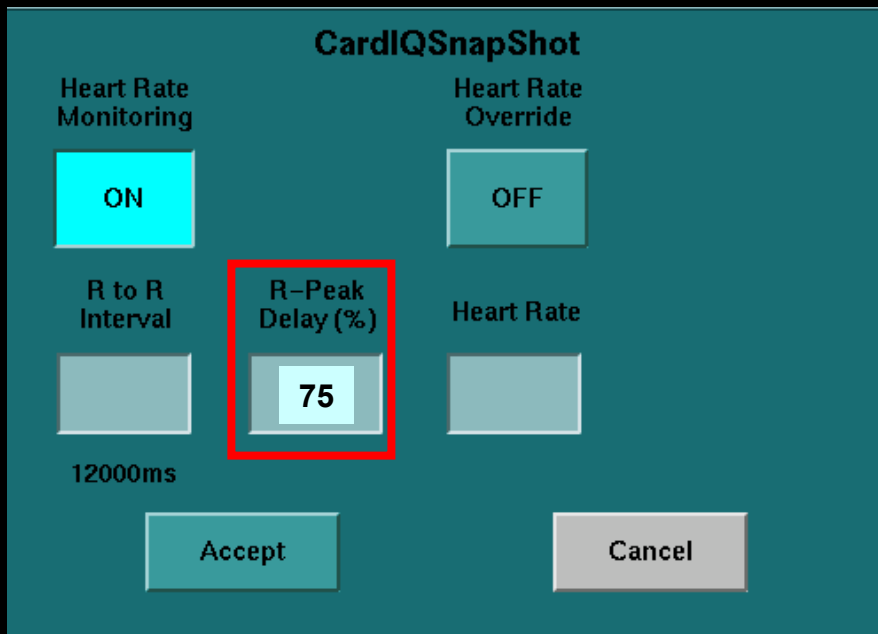
CardIQSnapShot

Heart Rate Monitoring	Heart Rate Override	
<input type="button" value="ON"/>	<input type="button" value="OFF"/>	
R to R Interval	R-Peak Delay (%)	Heart Rate
<input type="button"/>	<input type="button" value="75"/>	<input type="button"/>
12000ms		
<input type="button" value="Accept"/>	<input type="button" value="Cancel"/>	

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CardIQ SnapShot Box

R-Peak Delay – determines the *phase* at which the images will be reconstructed. Phase location defines the center of the recon window as a percent distance between adjacent R peaks



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CardIQ SnapShot Box

Heart Rate Override - allows the user to override the resting heart rate.

– *Segment* - the user will use Override if the heart rate drops more than 5BPM during breath hold.

– *Burst plus* - the user will always enter in a heart rate, pitch and gantry speed is set automatically by the system

CardIQSnapShot


Heart Rate Monitoring		Heart Rate Override
<input type="button" value="ON"/>		<input type="button" value="OFF"/>
R to R Interval	R-Peak Delay (%)	Heart Rate
<input type="text" value="12000ms"/>	<input type="text" value="75"/>	<input type="text"/>
<input type="button" value="Accept"/>		<input type="button" value="Cancel"/>

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SnapShot Burst Imaging

A retrospectively gated reconstruction, which uses data from up to 2 cardiac cycles within the same heart phase to produce an image.

- Used for patients with heart rates of 60-75 BPM
- Pitch is fixed at 0.3:1 regardless of heart rate
- Rotation time of 0.5secs
- *Heart rate or heart rate override have no effect on burst.*



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SnapShot Burst Plus Imaging

A retrospectively gated reconstruction, which uses data from up to 4 cardiac cycles within the same heart phase to produce an image.

- Used for patients with *stable* heart rates of 76-90+ BPM
- Pitch is 0.275:1 for heart rates from 76-90+ BPM
- Rotation time of 0.6secs for heart rates from 76-90 BPM
- Rotation time of 0.5secs for heart rates >90 BPM

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Retro Recon Screen

Phase Button - allows the user to change phase within the R to R interval, the user can change from 0 to 99%

Recon Mode - SnapShot Segment, SnapShot Burst, SnapShot Burst+

Retro	Scan Type	Retro Start	Retro End	No. of Images	Thick (mm)	Interval	Time	Gantry Tilt	SFOV	DFOV (cm)	R/L Center (mm)	A/P Center (mm)	Recon Type	Matrix Size	Peri-staltic	Recon Mode
Y	Cardiac Helical 0.5 sec.	00.00	148.75	400	1.25	1.25	14.4	00.0	Large	25.0	00.0	00.0	Std	512	N	SnapShot Segment