



LightSpeed LS2002

SmartStep Option



SmartStep - Option

Provides in room viewing and scan control for interventional CT procedures. This package includes an in room monitor for reviewing of images, a hand held remote controller for system manipulation and a foot switch to initiate exposure.

LightSpeed LS2002

SmartStep – Workflow scenario

- Position patient on CT cradle and acquire a scout for area of interest
- Perform localizing images to determine biopsy location
- Mark patient skin for needle entrance point
- Launch SmartStep to perform actual biopsy procedure
 - Once you are in SmartStep mode all other desktops are locked out (Image Works, Learning Solutions, etc..)

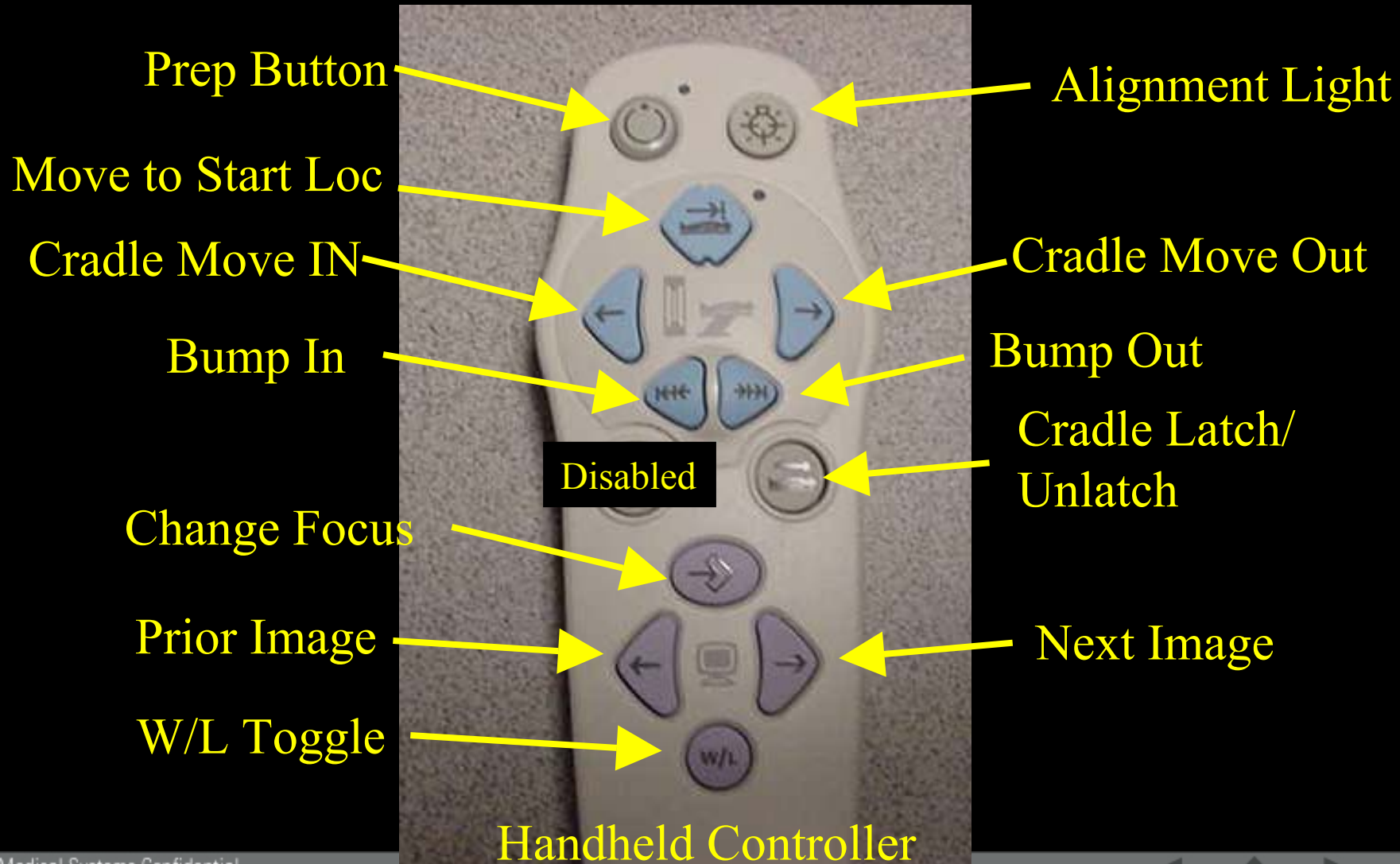
LightSpeed LS2002

SmartStep – Option

- Handheld Controller provides in room controls for scanning and image review.
- Connection port is provided on either side of the rear of the gantry for foot exposure switch and handheld controller.
- Base plate for the cradle to attach handheld controller and cradle handle.

LightSpeed LS2002

SmartStep - Option



LightSpeed LS2002

SmartStep – Option

Foot Exposure
Switch



Handheld
Controller

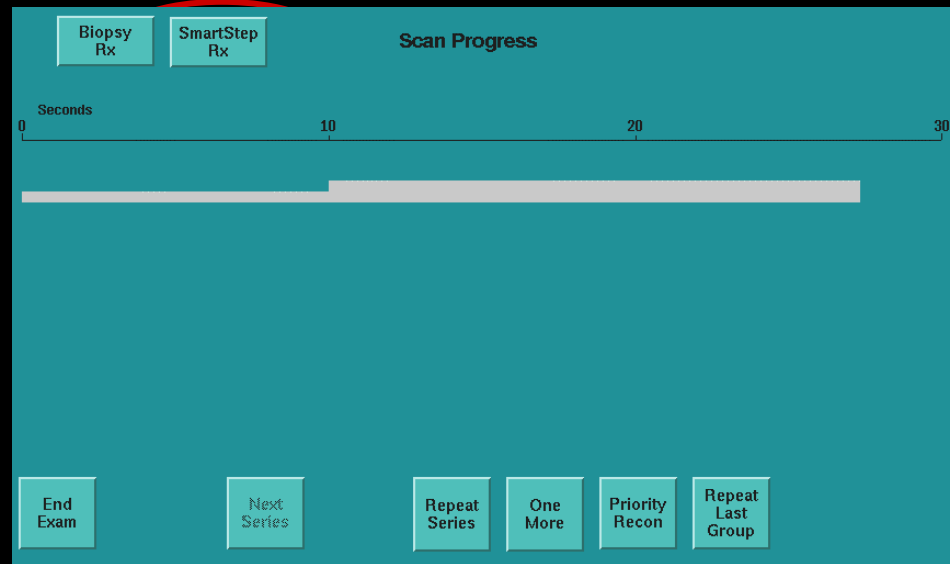


Connection Ports on Rear of Gantry

LightSpeed LS2002

SmartStep – Option

- Can be launched by two different methods:
 - From Create New Series
 - From Dynaplan Screen



SmartStep can not be built into a protocol

LightSpeed LS2002

SmartStep - Option

- Available Slice Thickness of 2.5, 5 and 7.5mm.
- mA values typically range from 20 to 40 mA for Chest, 30-80 mA for Abdomen
- Time to first image is 5 sec. after foot pedal is released
- Matrix size of 512 is standard

Select the desired Thickness (mm).

2.5 5 7.5 Cancel

Group Number	Scan Type	Start Location	Thickness (mm)	Start Gantry Tilt	SFOV	kV	mA	Exposure Time	Bump Distance	DFOV (cm)	R/L Center (mm)	A/P Center (mm)	Recon Type	Matrix Size
1	SmartStep Full 1.0 sec.	I200.0	5.0	S0.0	Large	120	20	90.0	2.5	36.0	R0.0	R0.0	Std	512

Bump Distance defaults to $\frac{1}{2}$ of slice thickness

LightSpeed LS2002

SmartStep - Option

- 0.8 and 1 sec full rotation times supported in SmartStep.

Select the desired rotation time.

0.8 **1.0** Cancel

Group Number	Scan Type	Start Location	Thickness (mm)	Start Gantry Tilt	SFOV	kV	mA	Exposure Time	Bump Distance	DFOV (cm)	R/L Center (mm)	A/P Center (mm)	Recon Type	Matrix Size
1	SmartStep Full 1.0 sec.	I200.0	5.0	S0.0	Large	120	20	90.0	2.5	36.0	R0.0	A0.0	Std	512

- All algorithms are supported.

Select the desired Reconstruction Algorithm.

Soft **Std** Lung Detail Bone Edge Bone Plus Cancel

Group Number	Scan Type	Start Location	Thickness (mm)	Start Gantry Tilt	SFOV	kV	mA	Exposure Time	Bump Distance	DFOV (cm)	R/L Center (mm)	A/P Center (mm)	Recon Type	Matrix Size
1	SmartStep Full 1.0 sec.	I200.0	5.0	S0.0	Large	120	20	90.0	2.5	36.0	R0.0	A0.0	Std	512

LightSpeed LS2002

SmartStep - Option

- SmartStep left monitor user interface.

Name: SmartStep ID: 123 456 789 Protocol: S.1 Routine Chest Exam: 72 Series: 3



Anatomical Reference
SN

Camera
Laser Camera

Patient Orientation
Feet First

Patient Position
Supine

Series Description

Biopsy Rx

SmartStep Scan Progress

Only SmartStep Scanning and SmartStep Display are available at this time

Start Location	Slice Thickness	Gantry Tilt	SFOV	Kv	Ma	Exposure Time	Bump Distance
l200.0	5mm	S0.0	Large	120	20	90.0sec	2.5

Real Time Information

Patient Handling

Scanning

Delay Timer

End Exam

Next Series

Repeat Series

Repeat SmartStep

Prep

LightSpeed LS2002

SmartStep - Option

- Other desktops unavailable while SmartStep is active.
- Recon state listed as SmartStep.



LightSpeed LS2002

SmartStep - Option

- Select Prep on left head or on Hand Controller to bring system to ready state.

The image displays three panels of the SmartStep control interface, each with a different state. Each panel has a teal background and a grid of buttons. The top row of buttons is labeled 'SmartStep' and includes 'Roam', 'Explicit Magnify', and 'Flip/Rotate'. The second row includes 'Zoom', 'Measure Angle', 'Measure Distance', and 'Display Normal'. The third row includes 'User Annotation', 'Erase', 'Grid On/Off', and 'Maintain'. The bottom row includes 'List/Select', 'Screen Save', 'Forward 1 Image', 'Backup 1 Image', and 'Last Image'. The middle section of each panel is a large colored bar with text: 'PRESS PREP' (red), 'PREP IN PROGRESS' (light blue), and 'READY TO SCAN' (cyan).

SmartStep				
Roam	Explicit Magnify	Flip/Rotate		
Zoom	Measure Angle	Measure Distance	Display Normal	
User Annotation	Erase	Grid On/Off	Maintain	
PRESS PREP				
SCAN STOPPED				
Forward 1 Image	Backup 1 Image	Last Image	List/Select	Screen Save

SmartStep				
Roam	Explicit Magnify	Flip/Rotate		
Zoom	Measure Angle	Measure Distance	Display Normal	
User Annotation	Erase	Grid On/Off	Maintain	
PREP IN PROGRESS				
SCAN STOPPED				
Forward 1 Image	Backup 1 Image	Last Image	List/Select	Screen Save

SmartStep				
Roam	Explicit Magnify	Flip/Rotate		
Zoom	Measure Angle	Measure Distance	Display Normal	
User Annotation	Erase	Grid On/Off	Maintain	
READY TO SCAN				
SCAN STOPPED				
Forward 1 Image	Backup 1 Image	Last Image	List/Select	Screen Save

LightSpeed LS2002

SmartStep - Option

- After each rotation, user must release foot peddle before you scan again.

The image displays three sequential panels of the SmartStep control interface, each with a teal background and a grid of buttons. The top section of each panel is labeled 'SmartStep' and contains the following buttons:

- Roam (highlighted in cyan)
- Zoom
- Explicit Magnify
- Flip/Rotate
- Measure Angle
- Measure Distance
- Display Normal
- User Annotation
- Erase
- Grid On/Off
- Maintain

The middle section of each panel features a large, solid-colored rectangular area with the following text:

- XRAY ON** (Yellow background)
- RELEASE PEDAL** (Red background)
- READY TO SCAN** (Cyan background)

The bottom section of each panel contains a grid of buttons:

- List/Select
- Screen Save
- Forward 1 Image
- Backup 1 Image
- Last Image

LightSpeed LS2002

SmartStep - Option

- Preset Window /Level preferences screen for SmartStep available under Display Preferences on ExamRx Display desktop.



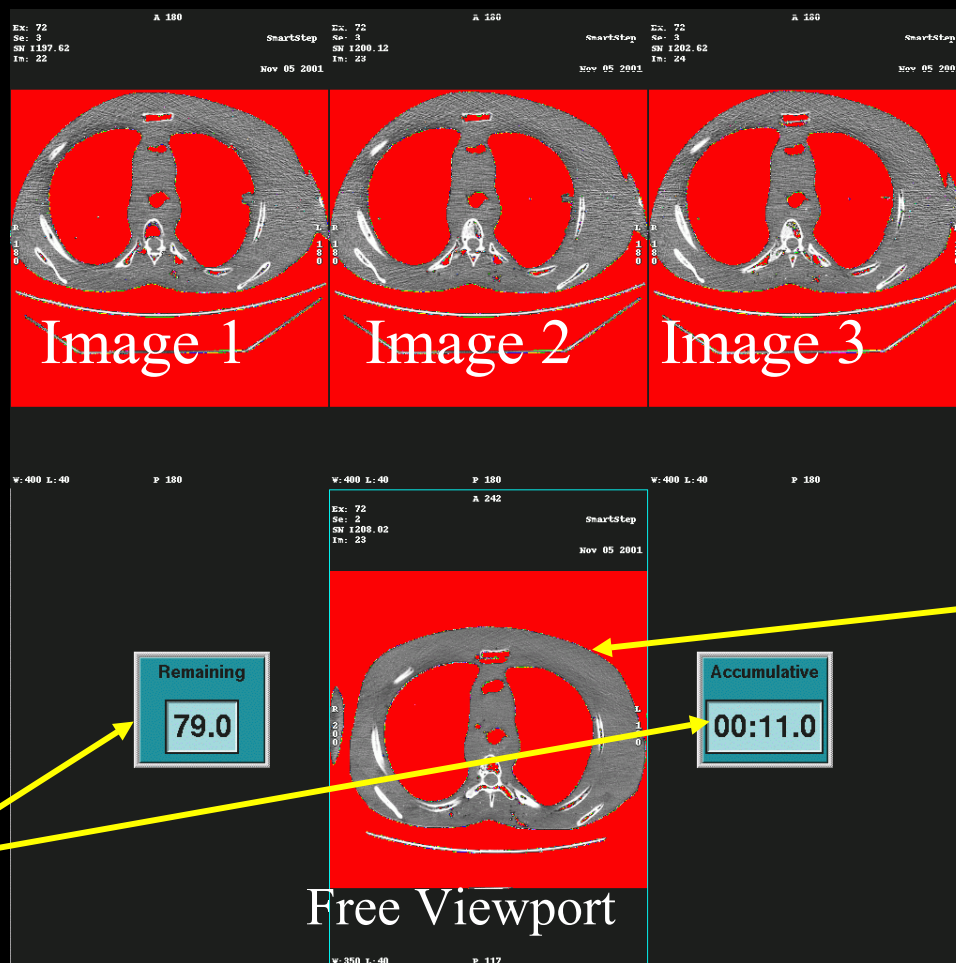
The image shows a 'SmartStep Presets' dialog box with a teal background. It contains a table with three columns: 'title', 'w/width', and 'w/level'. The table lists six anatomical regions with their corresponding window width and level values. At the bottom of the dialog, there are two buttons: 'Save as defaults' and 'Cancel'.

title	w/width	w/level
Abdomen	400	40
Head	100	35
Lung	1000	-700
Mediastinum	350	40
Spine	300	35
Vertebrae	2000	350

LightSpeed LS2002

SmartStep - Option

3 view-ports for interventional images



Remaining and Accumulative Timers

Free View-
port