



**mindray**

## DC-8 3D/4D Quick Guide



### Volume Imaging Cluster

1. 4D Knob
2. 3D Key
3. Single Display Format
4. Dual Display Format
5. Quad Display Format

### Home Base Controls

6. Update Key
7. Trackball
8. Left Set Key
9. Right Set Key
10. Left 4D Cine Edit
11. Right 4D Cine Edit

### X, Y, Z Rotation Knobs

12. X Axis – M-Mode Knob
13. Y Axis - PW Knob
14. Z Axis – Color Knob

### 15. Nav Rotary Knob

## Getting Started

1. Enter New Patient Information
2. Select Probe and desired OB Preset

## Scan

### B-Mode

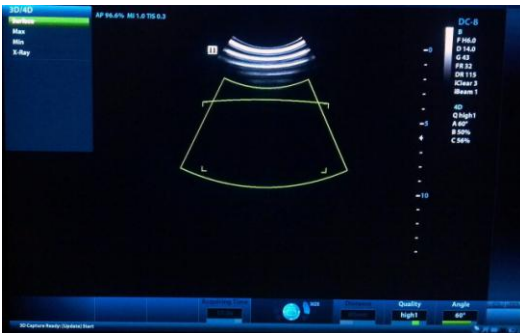
1. Scan and optimize 2D image as usual
2. For Baby Face acquisition, scan from an angle that shows the 2D face in profile or as close to profile as possible
3. Make sure fluid covers the face. The more fluid – the better the surface rendering

### 3D or 4D Imaging

1. Select 4D if baby is moving - Select 3D if baby is not moving
2. Push either 4D Knob or 3D Key in Volume Acquisition Cluster on Control Panel

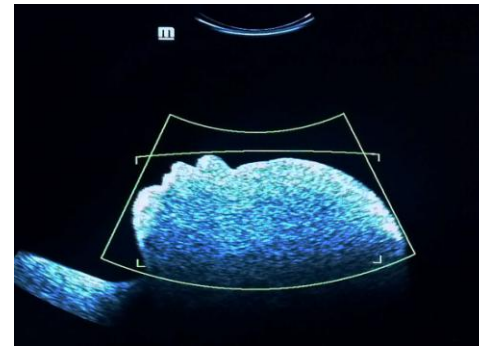


### The First Screen is the Set Up



3. Use Trackball to position the ROI/VOI graphic
4. Use Right Set key to size the ROI/VOI graphic

5. Place the Cut Plane in fluid over the face profile



6. Select Update key to begin acquisition
7. Update toggles between Set Up and Acquisition
8. Select B-Mode Knob to exit the feature

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## Volume Acquisition

### 4D

1. Push 4D Knob
2. Position and Size ROI/VOI to cover fetal face
3. Place the Cut Plane in fluid over the face
4. Select Update to Begin
5. Move Transducer very slowly keeping face in VOI
6. Z Axis Rotate **A** Plane – Face Parallel to Cut Plane
7. Freeze – Save Single Volume or...
8. Freeze – Save 4D Volume Cine

### 3D

1. Push 3D Key
2. Position and Size ROI/VOI to cover fetal face
3. Place the Cut Plane in fluid over the face
4. Check desired Angle and Quality on Set Up Touch Panel
5. Select Update to Begin
6. Hold Transducer Still until acquisition completes
7. Z Axis Rotate **A** Plane – Face Parallel to Cut Plane
8. Freeze – Save Volume

## Volume Rendering Optimization Parameters

1. **Threshold** Clears VR of Noise – Improves Clarity
  2. **Opacity** Lower Opacity – Softer more transparent appearance
  3. **Smooth** Higher Smooth – Smoother overall appearance
  4. **Brightness** Lightens the VR
  5. **Contrast** Increase range between light and dark
  6. **Tint** User choice of VR presentation
  7. **iClear** Higher iClear – Smoother Surface – Reduce Speckle
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## Render Modes

### 1. Surface



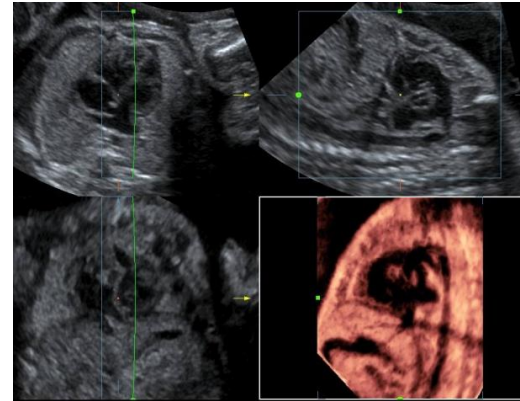
Smooths image contours and creates a soft sculpted appearance  
Baby Faces

### 2. Max



Brightest gray levels displayed  
Fetal Skeletons and hyper-echoic structures

### 3. Min



Darkest gray levels displayed  
Vascular and hypo-echoic structures

### 4. X-ray

All gray levels displayed  
Primarily used in tissue with a tumor

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## Display Formats



Single



Asymmetric Quad



Dual



MPR Only



Quad

## Volume Touch Panel First Screen



1. **VR and MPR**  
Selects Parameters on Soft Key Menu for VR or MPR's
2. **Display Formats**  
MPR Only and Asymmetric Quad
3. **VOI**  
On and Off
4. **Reset Options**  
**All** Resets all changes of parameters, rotation, and orientation  
**Ori** Resets only orientation to original acquisition  
**Curve** Resets Cut Plane Curve to Straight Line
5. **Active Quadrant**  
Activates the Quadrant of Interest for X, Y, Z axis rotation and Slice function
6. **VR Orientation**  
Orients the VR without affecting the rotation of A, B, and C Planes
7. **iClear**  
Surface smoothing of the VR – Speckle Reduction
8. **Flip** Quick 180° rotation of the Cut Plane  
**Sync** Quick View Direction Change for the VR
9. **Soft Key Menu - Volume Optimization Parameters**  
Optimization Parameters for the VR (default) or MPR's

## Volume Touch Panel Second Screen



1. **Inversion Mode**  
Inversion changes white to black and black to white to create a cast in fluid-filled anatomy in the VR
2. **Accept VOI**  
The VR is used as a guide to adjust the sectional planes, A, B, and C  
A green line appears on the VR to indicate the position of the selected sectional plane
3. **Render Modes**  
Render Modes can change the look of the VR  
**Surface** Baby Faces – Smooths contours - soft sculpted look  
**Max** Fetal Skeletons - Brightest Gray Levels are displayed  
**Min** Vascular - Darkest Gray Levels are displayed  
**X-Ray** All Gray Levels are displayed
4. **View Directions**  
The View Direction of any plane can be seen in the VR Quadrant  
Fetal Images are viewed Up/Down unless changed by the user

## Edit



### 1. Edit Tab

Activates Edit Function

### 2. Area Selection

**Inside** – Removes information within the closed graphic

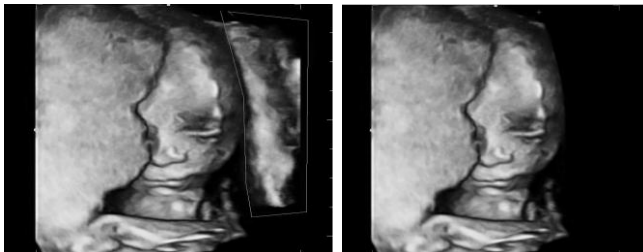
**Outside** – Removes information outside of the closed graphic

### Edit Tools

**Polygon** Irregular Shapes – Insert points to be connected

**Contour** Works like a Trace tool

**Rectangle** Outlines a rectangle



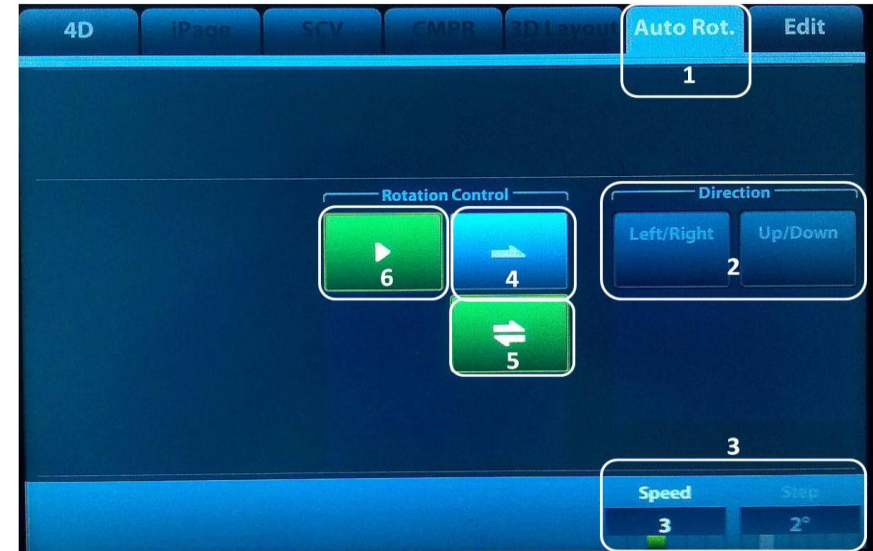
### 3. Undo

Removes last edit

### 4. Undo All

Removes all edits

## Auto Rotate



To select first frame, TB to desired frame and hit Left Cine Edit Key

To select last frame, TB to desired frame and hit Right Cine Edit Key

### 1. Auto Rotate Tab

Activates Auto Rotate Function

### 2. Direction

Left/Right Direction of Rotation

Up/Down Direction of Rotation

### 3. Speed and Steps

Speed of Rotation

Steps between Frames

### 4. First Frame/First Frame

### 5. First Frame/Last Frame

### 6. Play/Stop