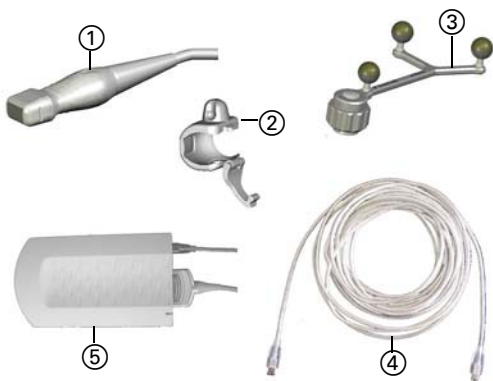


IGSonic SETUP

Software Versions: VectorVision cranial/ENT 7.8/7.9, BrainLAB cranial/ENT unlimited 1.x

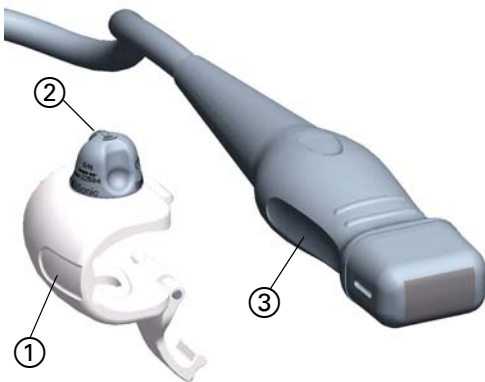


IGSonic COMPONENTS

- ① IGSonic Probe 10V5
- ② IGSonic Adapter
- ③ IGSonic Tracking Array (sterile)
- ④ IGSonic Data Cable IEEE1394
- ⑤ IGSonic 3000 Device Box

IGSonic DEVICE BOX PREPARATION

- Connect the **IGSonic Probe 10V5** to the **IGSonic Device Box** and lock
- Place the **IGSonic Device Box** on the side rail of the OR table or on a separate table as close to the operating site as possible
- Connect the **IGSonic Device Box** and the navigation station using the **IGSonic Data Cable IEEE1394**



PROBE PREPARATION

- Slide the **IGSonic** adapter over the **IGSonic Probe 10V5**. The engraving on the closed side of the adapter ① must match the indentation on the right side of the probe ③.
- Make sure that the sonic direction indicated on the adapter ② is correct
- Close the **IGSonic** adapter using the clip

NOTE: There should be no gap between the adapter and the probe.



IGSonic INITIALIZATION

- Press the **Toolbox** button and select **Ultrasound**
- Press **IGSonic Ultrasound**
- A dialog is displayed asking if the **IGSonic** device is connected properly to the navigation system
- Press **Proceed** to initialize the ultrasound device

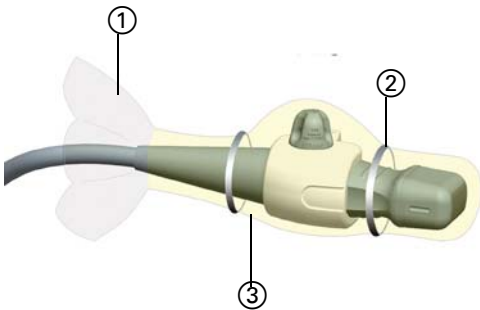
NOTE: If the **IGSonic** initialization fails, unplug the **IGSonic** device and wait 5 seconds. Then, plug it in again, wait 5 seconds and press **Try Again**.

Note: This guide does not replace reading the user manuals.
The shown screenshots may differ depending on your software version.



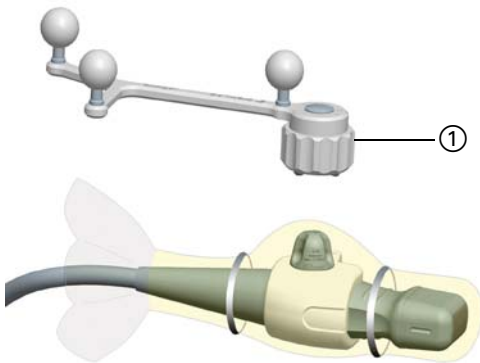
PROBE DRAPING - UNSTERILE PART

- Put coupling gel onto the probe tip
- Put coupling gel into the tip of the drape, but do not fill up the tip completely
- Insert the probe into the tip of the drape, which is held by the sterile nurse
- Grasp the tabs ① on each side of the drape and slide the drape over the entire probe cable



PROBE DRAPING - STERILE PART

- Slide the clear part ① of the drape over the adapter
- Slide the front part ③ over the adapter until the drape tip is straightened
- Use the rubber band ② to keep the gel in the drape tip as illustrated



IGsonic ADAPTER MOUNTING

- Attach the sterile **IGsonic** tracking array to the draped **IGsonic** adapter base
- Securely tighten the cap nut ①

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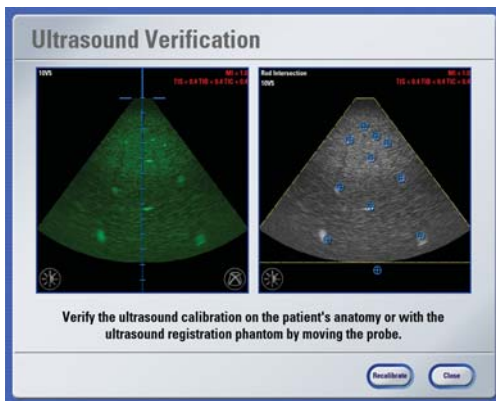
IGSonic VERIFICATION & CALIBRATION

Software Versions: VectorVision cranial/ENT 7.8/7.9, BrainLAB cranial/ENT unlimited 1.x



PROBE VERIFICATION SETUP

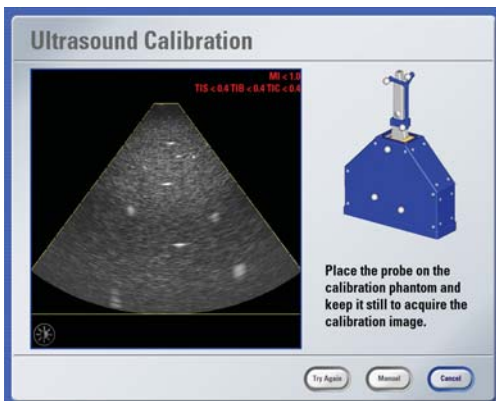
- Prepare the **Ultrasound Registration Phantom** and drape it if necessary
- Hold the activated **IGSonic** probe to the **Ultrasound Registration Phantom**



IGSonic PROBE VERIFICATION

- Verify the accuracy of the probe using the displayed calibration points
- If the accuracy is sufficient, press **Accept** and remove the **Ultrasound Registration Phantom**

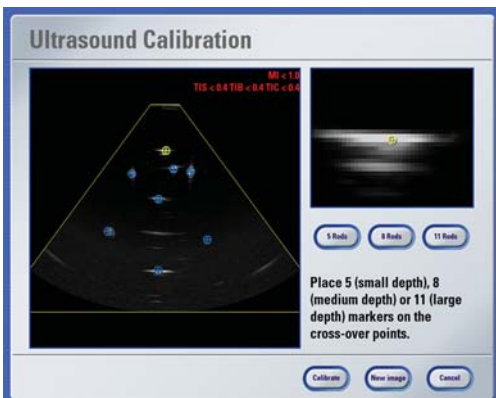
NOTE: If the accuracy is not sufficient, recalibrate the probe as described below.



AUTOMATIC PROBE CALIBRATION

- In the **Ultrasound Verification** dialog, press **Recalibrate** to activate automatic probe calibration
- Set penetration depth to a max. value and modify settings to best visualize the calibration points
- Hold probe tip perpendicular to rubber surface of the **Ultrasound Registration Phantom** and hold it still until the calibration is performed

NOTE: If the automatic calibration fails, perform a manual calibration.



MANUAL PROBE CALIBRATION

- In the **Ultrasound Calibration** dialog, press **Manual**
- If the calibration points are not clearly visible, press **New Image**
- Select the appropriate number of calibration points
- Manually reposition the displayed calibration points
- Press **Calibrate** to perform a recalibration and verify the result

NOTE: If necessary, repeat automatic or manual calibration.

Note: This guide does not replace reading the user manuals.
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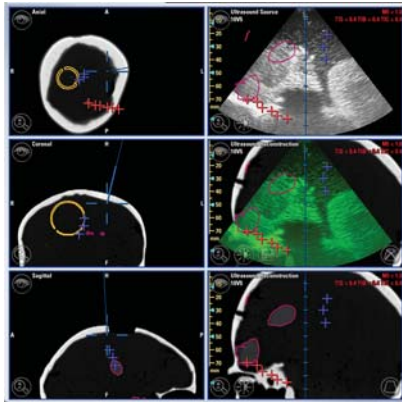
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BASIC IGsonic FEATURES

Software Versions: VectorVision cranial/ENT 7.8/7.9, BrainLAB cranial/ENT unlimited 1.x



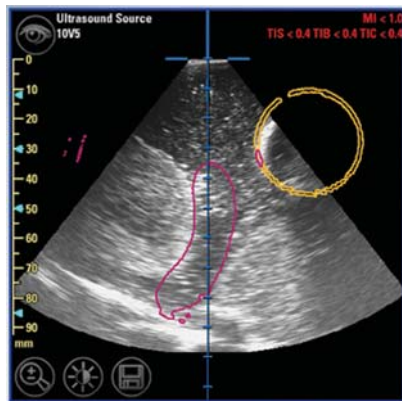
SUGGESTED VIEW LAYOUT

Left side, from top to bottom:

- Axial image
- Coronal image
- Sagittal image

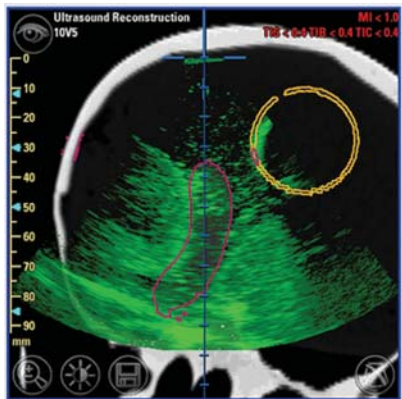
Right side, from top to bottom:

- Ultrasound image
- Ultrasound reconstruction with overlay
- Ultrasound reconstruction without overlay



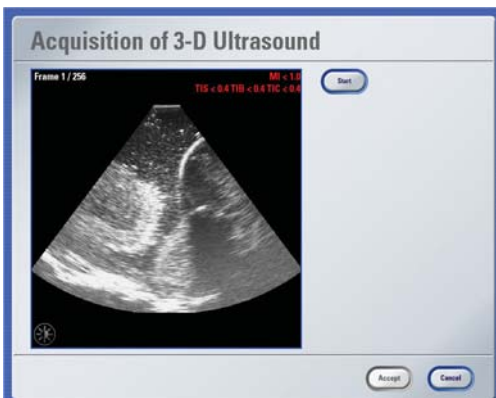
ULTRASOUND VIEW

- In the **Other Views** tab (accessible by pressing the eye icon in the navigation screen), **Ultrasound View** can be selected to display an ultrasound image
- The displayed image can be adjusted by pressing the **Image Settings** button in the **Ultrasound** dialog
- To save the ultrasound image, press the disk button
- Stored images can be displayed by pressing **Stored Ultrasound Images** in the **Views** dialog



ULTRASOUND RECONSTRUCTION VIEW

- In the **Other Views** tab, **Ultrasound Reconstruction** can be selected to display any image set cut along the ultrasound plane
- Pressing the **Overlay** button overlays the current view with the ultrasound image
- In the **Overlay** tab, which can be accessed via the **Image Settings** button, the overlay can be modified

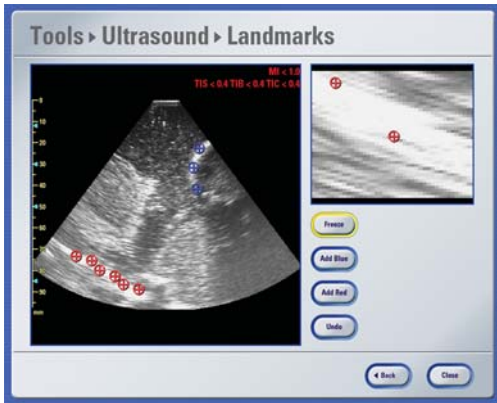


3D ULTRASOUND IMAGE ACQUISITION

- Open **Tools > Ultrasound** and press **3-D Ultrasound Acquisition**
- Determine the area where the data will be acquired
- Press **Start**
- Slowly tilt probe forward or backward on region of interest
- After acquiring images, press **Stop**, then **Accept** to save data

NOTE: To manage acquired data, press the eye icon.

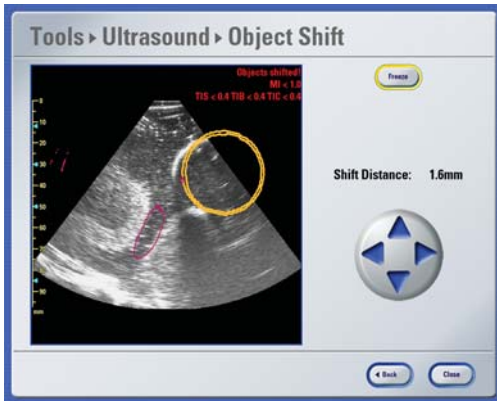
Note: This guide does not replace reading the user manuals.
The shown screenshots may differ depending on your software version.



ULTRASOUND LANDMARKS DEFINITION

- In the **Ultrasound** dialog, press **Ultrasound Landmarks**
- Image the area of interest and press **Freeze**
- Press **Add Blue/Add Red** to set the landmark(s) and position them as required
- Press **Freeze** again and repeat the 3 previous steps using a different angle if necessary

NOTE: To manage landmarks, press **Points** in the **Data** dialog.



OBJECT SHIFT

- In the **Ultrasound** dialog, press **Object Shift**
- Hold the probe to the object and press **Freeze**
- Select the outline to be shifted and adjust its position using the arrows
- Press **Freeze** again and repeat the 3 previous steps using a different angle if necessary

NOTE: To manage shifted objects, press **Objects** in the **Data** dialog.

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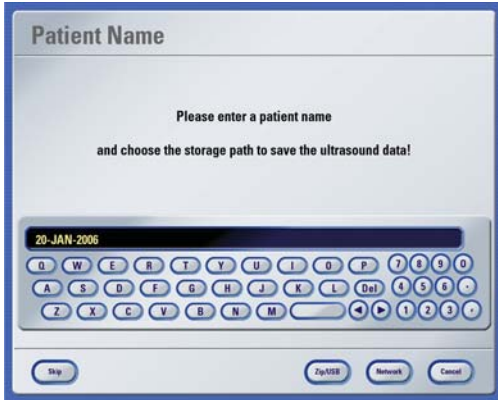
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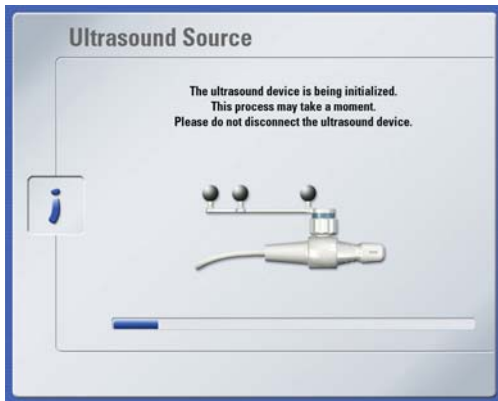
IGSonic FOR MR-/CT-FREE USE

Software Versions: VectorVision cranial/ENT 7.8/7.9, BrainLAB cranial/ENT unlimited 1.x



SOFTWARE START

- Start the cranial/ENT software
- In the **Loading Patient Data** dialog, press **Skip** to activate standalone ultrasound
- If you are using a **Kolibri** system, press **Navigation**, followed by **Ultrasound only** and **Skip** to activate standalone ultrasound
- Enter the patient name
- Select where data is to be stored



IGSonic INITIALIZATION

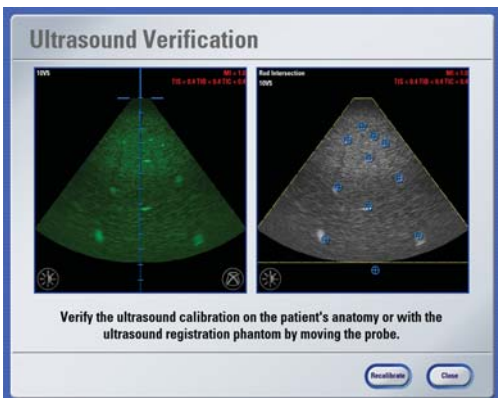
- Press the **Toolbox** button and select **Ultrasound**
- Press **IGSonic Ultrasound**
- A dialog is displayed asking if the **IGSonic** device is connected properly to the navigation system
- Press **Proceed** to initialize the ultrasound device

NOTE: If the **IGSonic** initialization fails, unplug the **IGSonic** device and wait 5 seconds. Then, plug it in again, wait 5 seconds and press **Try Again**.



PROBE VERIFICATION SETUP

- Prepare the **Ultrasound Registration Phantom** and drape it if necessary
- Hold the activated **IGSonic** probe to the **Ultrasound Registration Phantom**

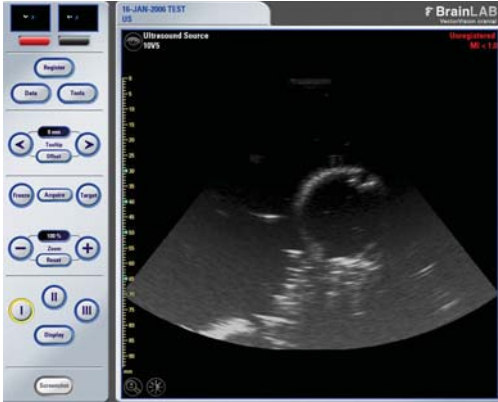


IGSonic PROBE VERIFICATION

- Verify the accuracy of the probe using the displayed calibration points
- If the accuracy is sufficient, press **Accept** and remove the **Ultrasound Registration Phantom**

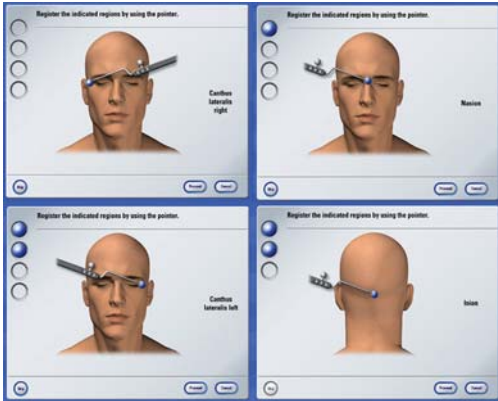
NOTE: If the accuracy is not sufficient, recalibrate the probe.

Note: This guide does not replace reading the user manuals.
The shown screenshots may differ depending on your software version.



LIVE ULTRASOUND IMAGING

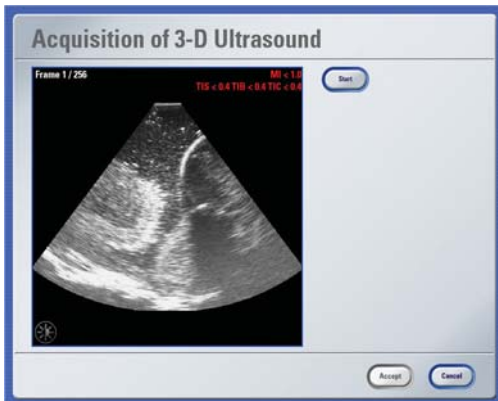
- The live ultrasound image is shown in a maximized view
- If required, press the **Image Settings** button in the **Ultrasound** dialog (accessible via **Tools** button) to adjust the ultrasound image settings



PATIENT REGISTRATION

- To access ultrasound-based navigation, press the **Register** button in the toolbar
- Use the **BrainLAB Pointer, Blunt Tip** to register three out of four landmarks
- Verify the patient orientation in the following dialog
- If the patient orientation is accurate, press **Accept**

NOTE: To repeat definition of patient orientation, press **Try Again**.



3D ULTRASOUND IMAGE ACQUISITION

- Open **Tools > Ultrasound** and press **3-D Ultrasound Acquisition**
- Determine the area where the data will be acquired
- Press **Start**
- Slowly tilt probe forward or backward on region of interest
- After acquiring images, press **Stop**, then **Accept** to save data

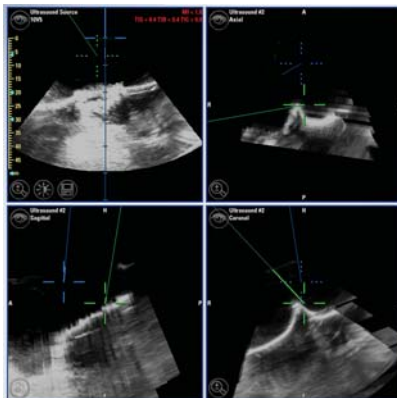


IMAGE DISPLAY

The navigation view displays axial, coronal and sagittal images of the acquired data set and the live ultrasound images.

NOTE: To manage acquired data, press the eye icon.

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