STEREOTAXIS

NAVIGANT™ v2.11

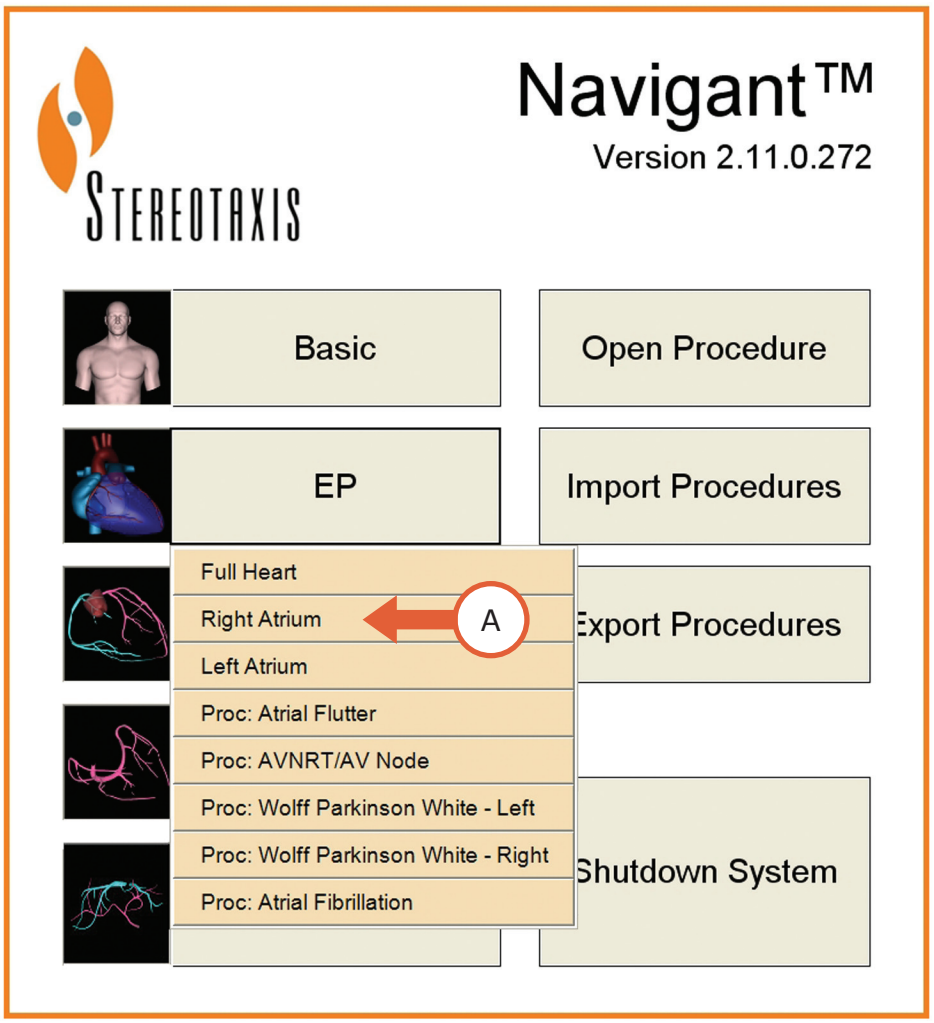
ELECTROPHYSIOLOGY

RIGHT ATRIUM MAPPING FOR SUPRA VENTRICULAR TACHYCARDIA

Getting Started

The **Opening Screen** displays the application procedure selection menu. Choose an application (**EP** for electrophysiology).

Choose from the drop down menu to select the type of procedure (A).



Opening Dialogue Box

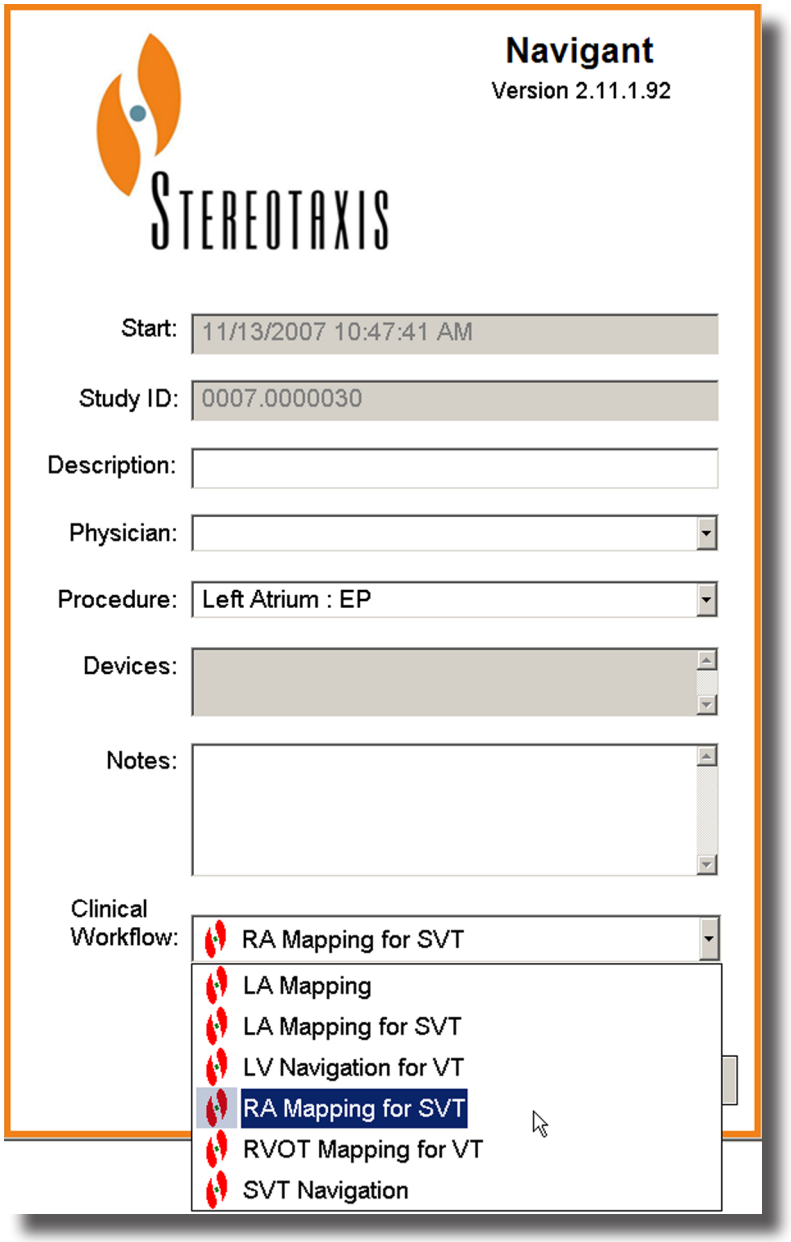
Choose a Clinical Workflow

Once the procedure has been selected, the Procedure Information Window will appear. A start date, time, and a study ID are automatically assigned. Fill in the description and physician by typing or selecting from a drop-down list if available.

Click OK once the Clinical Workflow has been selected. The Navigant main screen will appear.

The devices window will be grayed out.

Select the Clinical Workflow from the menu.



Information Window

TIP

You must fill in the physician and description in order to save a physician layout.

Clinical workflows are designed to facilitate case progression in the following ways:

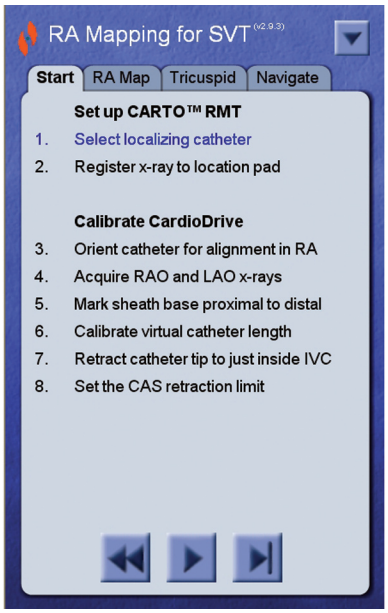
- By providing a simple step by step approach to automation and integration
- Keeping navigation and control options easily accessible throughout the case

The Clinical Workflow Manager menu will be on the left side of the monitor. Click Execute ► to advance to the next numbered step.

Once all steps have been completed, use the Execute ► button at the bottom of the tab window to advance to the next tab window.

Each tab on the CWM lists steps pertaining to a part of the procedure. By progressing through the appropriate steps, you can complete a portion of the study.

CWM Tab Controller buttons:
Start Over (left)
Execute Step (middle)
Next Section (right)



RA Mapping for SVT CWM with the Start Tab open

RA Mapping for SVT

Start Tab

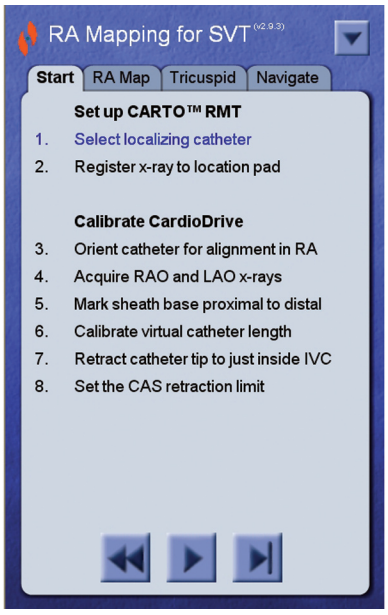
The Start tab is divided into two sections:

Set up Carto™ RMT

After completion of these steps Navigant and Carto will be integrated.

Calibrate Cardiodrive

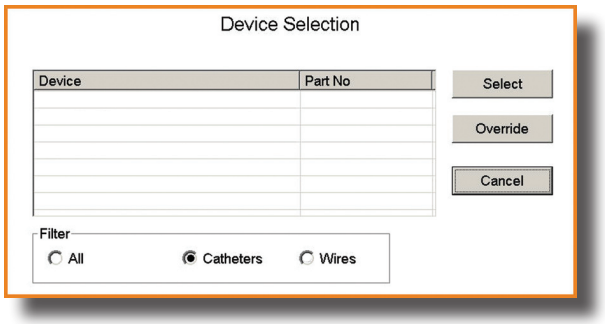
Automation is enabled after completion of these steps.



RA Mapping for SVT CWM with the Start Tab open

1. Select localizing catheter

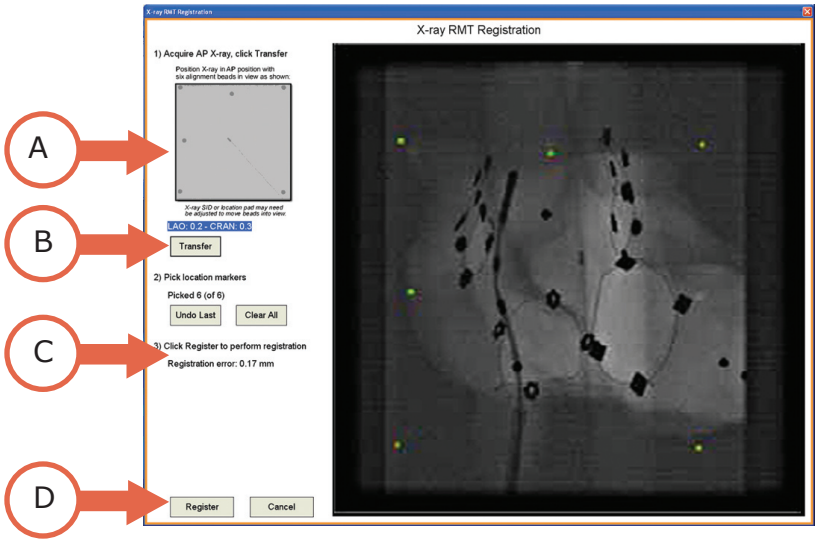
The device selection window opens automatically. Click the **Override button** to view the menu of available catheters. Either double-click the option of choice or select one, then click **Add Device** to choose a device.



Device Selection Dialogue Box

2. Register x-ray to Carto location pad

- The registration screen will automatically appear.
- Ensure all six radiopaque markers are visualized on fluoro as seen on the reference template (A).
- Transfer an AP image by clicking the transfer button on the registration screen (B). Select all six markers with mouse clicks. At this time, a registration error will be displayed on step 3 of the registration screen (C).
- The registration error must be below 1.0 mm. If greater than 1, select clear all and remark.
- Select register (D).



Step 2: Register x-ray to location pad

Section 2: Cardiodrive

Calibrate Cardiodrive

3. Orient catheter for alignment	Position the catheter, so the tip is located in the center of the chamber. Selecting this step will apply the initial magnetic field.
4. Acquire RAO and LAO x-rays	Acquire and transfer RAO and LAO images (must be minimum of 40° apart).
5. Mark sheath base proximal to distal	This step identifies the anatomical location of the catheter's entry point. a. Position the mouse over one of the transferred fluoro images where the catheter enters the chamber b. Left click and drag the mouse over the catheter shaft from proximal to distal (a short segment) c. A red line will appear indicating the path d. Repeat steps a. and b. on the second fluoro image using the yellow dotted line as a position reference. A pop-up will appear asking that you accept or reject the identified sheath base. e. Once accepted, the yellow virtual catheter will appear
6. Calibrate CAS length	The calibrate window will pop-up. Click advance or retract to set the length of the virtual catheter equal to the length of the actual catheter.
7. Retract catheter to the retraction limit	Using Cardiodrive micro-navigation tools retract the catheter until the middle magnet of the catheter tip is at the level of the IVC.
8. Set the CAS retraction limit	By clicking this step, Navigant stores the retraction limit, and will prevent the catheter from moving past this point during automated mapping.

TIP

Do not move the Cardiodrive during the calibration of the CAS length.

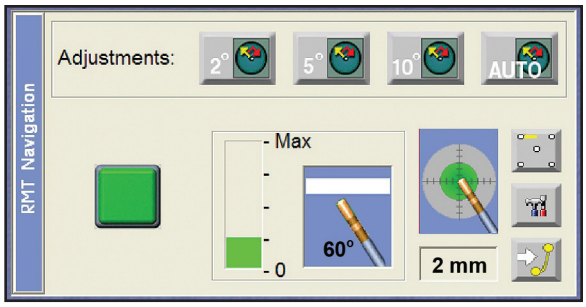
RA AutoMap

How AutoMap Works

The AutoMap feature of Navigant creates a map of right atrium.

- Prior to initiating the AutoMap it is important to position the catheter appropriately.
- After advancing the catheter into the SVC (superior vena cava) the program will map the right atrium

The AutoMap sequence uses information from the contact meter in the RMT Navigation panel.



RMT Navigation Panel
The Contact Meter is at its optimal contact reading.

RA Map Tab

The RA (right atrium) Map tab provides the ability to automap the right atrium by using the numbered steps provided.

Step one requires the advancement of the catheter to the SVC prior to the initiation of the automap sequence.

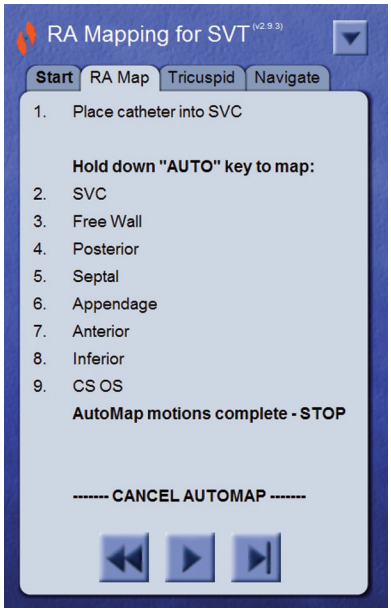
RA mapping is the automatic progression throughout the regions of the right atrium.

Select the second step on the tab then hold down the Auto key on the keyboard and the automapping function begins. The chamber regions will be mapped in the sequence on the tab.

The Auto key must be depressed by the user for the duration of the automap sequence. If it is released the sequence will pause until the Auto key is again depressed.

Once the sequence is completed the Auto key can be released and the execute button pressed to advance to the next tab.

The automap feature can be cancelled by activating the Cancel AutoMap feature at any point in the sequence.



CWM with RA Map Tab

Working with Carto RMT

Prior to pressing the Auto key on the Navigant keyboard set the RMT Acq to None or auto accept on the Carto RMT Monitor.

Press and hold the Auto key and the Navigant system will initiate the auto mapping sequence changing the field direction and advancing or retracting the catheter as needed.

If the Carto RMT is in "**auto accept**" mode the Navigant MNS will manipulate the catheter and acquire points into the map without any additional action required by the user.

Carto RMT Acq Button
Choose Auto Accept or None

If the Carto RMT is in the "**none**" mode the Navigant MNS will manipulate the catheter but the user must manually "**Freeze**" and "**Accept**" the points on the Carto RMT system. The Auto map sequence will place the catheter at a location and wait for the user to "freeze" a point prior to advancing to the next location.

Carto RMT
Freeze Buttons

The **Auto Accept** mode has the advantage of being faster in creating the map. However the user should review the map points for accuracy once the Auto-map of the chamber is completed.

The "**None**" mode allows the user to assess each point prior to accepting it into the map. This will add time to the procedure but the user will be assured of an accurate map on completion of the sequence.

RA Mapping for SVT - Triscuspid

1. Navigate to Tricuspid 2:00

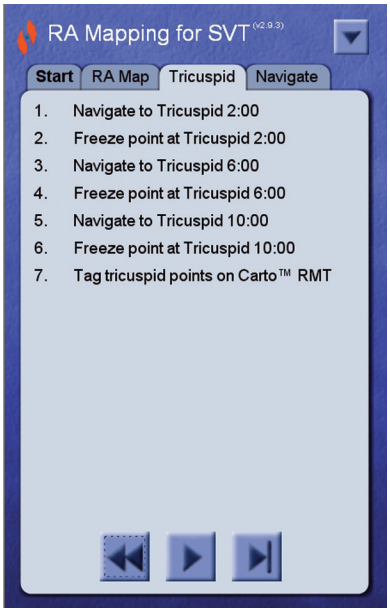
This applies a preset field direction. At this point, advance the catheter with the Cardiodrive. While observing the electrogram and/or impedance, slowly retract while monitoring for changes. Once the tip is at the desired location press Execute ► to advance to the next step.

2. Freeze point at Tricuspid 2:00

This step will automatically be implemented in the Carto system if the system has the auto accept feature turned on.

Continue this procedure for Tricuspid 6:00 and Tricuspid 10:00.

Click Execute ► to tag the tricuspid points on Carto.



CWM with Tricuspic Tab

AutoMap Interaction

Interaction with AutoMap is possible. Observe the generated map as points are collected during the automapping process. In some circumstances it may be necessary to interact with the AutoMap.

Circumstances for Interaction:

- To delete internal points
- To avoid excess pile-up of points in one region
- To manipulate the CAS if an obstruction is encountered
- To ensure even distribution of points
- To accommodate enlarged chambers by adjusting the length of the catheter

Interaction during the AutoMap process will not interrupt the mapping sequence.

TIP

An even distribution will maximize the accuracy and efficiency of the integrated navigation tools.

The Navigate Tab

The navigate tab allows customizing of the images, palettes, and tools on the Navigant screen.

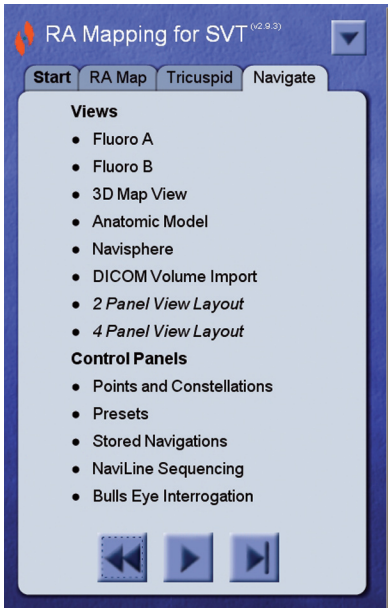
The navigate tab differs from other navigate tabs in that it doesn't have the Autoflip feature.

The Views section of the tab allows the display of:

- Fluoro (A and B)
- 3D Map View
- Anatomic Model
- Navisphere
- DICOM Volume Import
- Layout Views (2 or 4 panel)

The Control Panels section allows the display of the different tools to assist in the procedure. The panels are displayed above the image windows.

- Points and Constellations
- Presets
- Stored Navigations
- NaviLine Sequencing
- Bulls Eye Interrogation



CWM showing the Navigate Tab