

# Quick Reference Guide



Map it.

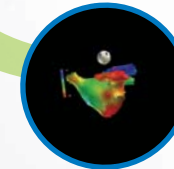


Treat it.




Record it.

[www.bardep.com](http://www.bardep.com)

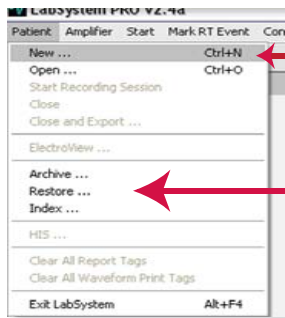


## 1 Starting the LabSystem™ PRO Software

- From the Windows desktop: Click the software system icon  to start the software.
- When “Specify Generator” message appears: If appropriate, go ahead and select ablation generator type. **\*\*Important:** The generator must be connected and turned on prior to proceeding with this step!

REVIEW SCREEN (on left)- (Remember to work logically from left to right on review screen top menu bar)

## 2 Select: Patient → New/ Open/ or Restore



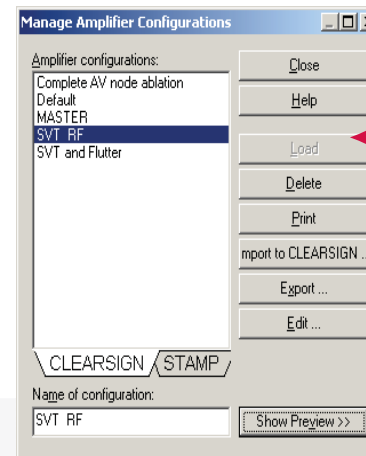
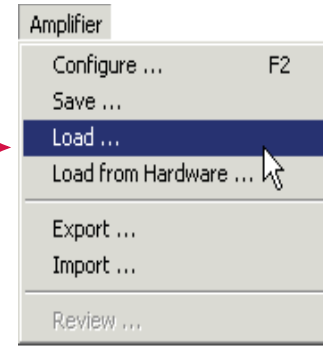
Note: Select “HIS” for XLink and EPLink™ Data Interface patient import.

- Patient demographics screen opens. Enter **all hospital required** Patient Data.
- Also go ahead and **specify the Procedure** as → Diagnostic, Ablation, or ICD etc. This opens a **green** folder under patient name in the study tree on the left side of the review screen. Be sure you type the doctor’s name in the Physician’s box.

Select appropriate procedure when you have finished entering the patient information. Most times you will choose “Diagnostic.”

- Click OK.

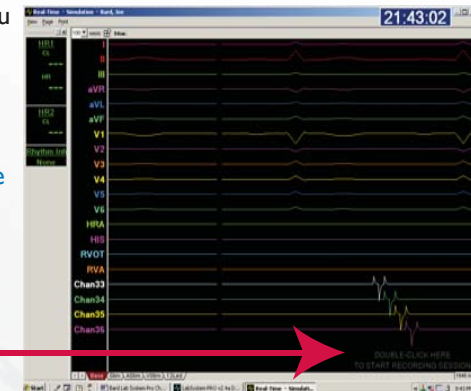
## 3 Select: Amplifier → Load




Pick the appropriate “Amp Config” for this study (these configuration files were previously configured at the time of the install and are specific to your MD’s preferences), then click Load.

## 4 Select: Start → Procedure

- Select appropriate procedure if you haven’t done this when entering patient information.
- To Start Recording, double click on the waveform area of Real-Time Screen Or Hit the “F7” or “F8” button to start recording.



## 5 Select: “Stim Detect View” (and “Auto Stim Log” in the review screen) if you want the review screen to update and log an event with each detected waveform from the current pacing protocol.

- Click this button  located on the upper left of the review screen.



- Make sure there is a **Green check** at the bottom of the Real Time Screen. If there is a **Red X**, click on it.



## 6 Select: Protocol

- Do not forget to change the Protocol each time so that the data stays organized. Also, remember to mark each important event so that it will be easy to find in the log and can be included in the final printed patient data report.
- Choose a pre-defined Protocol: Baseline, IAP, ARP, IVP, etc. or whatever your site named them in the start protocol toolbar.

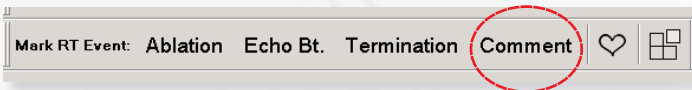


EXAMPLES: If doing baseline intervals, select Baseline protocol or if pacing the atrium select AV Conduction protocol

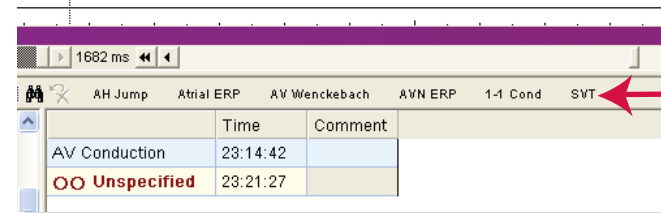
## 7 Marking Events and Measuring Intervals




### Marking Events

- Press the F8 Key to log an unspecified event. This will also start the recording process automatically.
- You can also add an event that is called “COMMENT” which will work the same as the F8 button. It can be clicked on the toolbar.



- Name the event by clicking on appropriate event label in the EVENTS toolbar located at the bottom of the review screen above the log, or right clicking on the event.

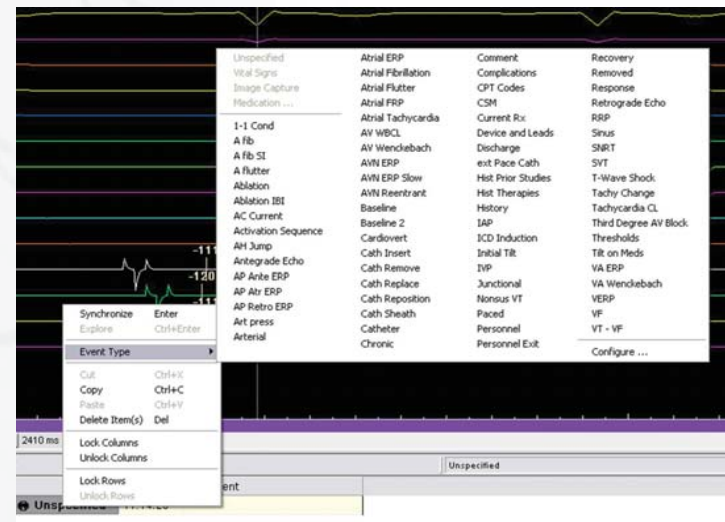


- Use the left  or right  scroll arrow or scroll box  to position the recording in the active waveform window so that the event of interest is displayed, then click the “LIGHTNING BOLT” in the top left corner of the review screen.

- By clicking the “Lightning Bolt” that marks in the log the exact place you have scrolled to (or use CTRL-spacebar).

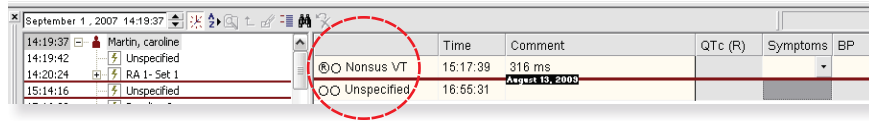


- In the waveform window, or on the word “COMMENT or UNSPECIFIED” or any event name right click the event, point to Event Type on the shortcut menu, and then select an event from the list that appears.



## 7 Marking Events and Measuring Intervals (con't)

- The event is also added to the [Patient Log](#) and a [reference marker for the event](#) is displayed above the waveform on the Scroll rate and marker bar.



- To include events in a report select the left circle. It will change to Ⓜ.
- To find events in the patient log select the appropriate **green** procedure and protocol folders in patient “tree” on the left side of the log.

## Measuring Intervals

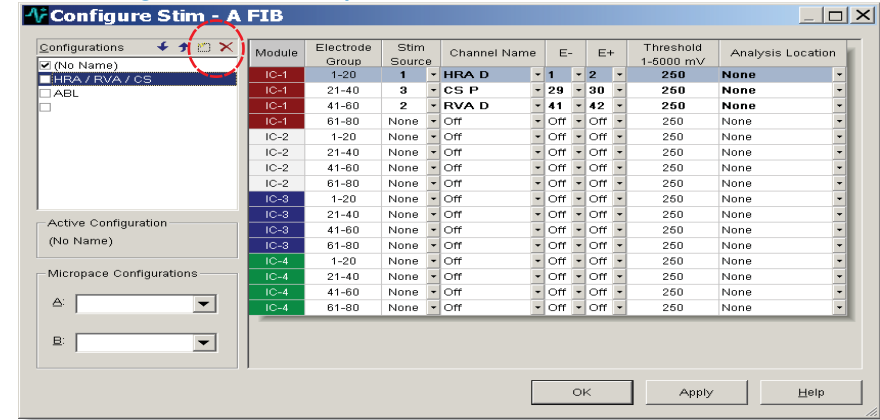
- Place the mouse/pointer anywhere in the waveform review window, and then [left click on the waveform](#) where you want to begin measuring the interval. A start marker and first green reference line appears.
- Drag the pointer in the direction you want to place the end marker. A second green reference line appears as soon as the pointer is dragged away from the first reference line. This line is provided as a guide for establishing the end point of the measurement. When this line is positioned at the precise end point of the measurement, [LEFT click that end point](#).
- An interval label appears, identifying the measured interval.

## 8 Waveforms

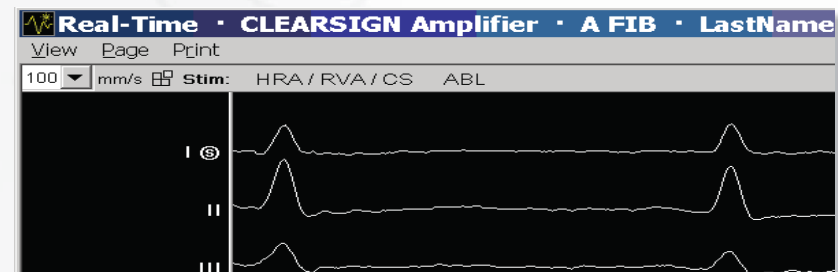
- Be sure that the review [window](#) you want to effect is [active](#) by clicking on it. The Window title bar will be blue and not grey.
- Increase or decrease gain by [underscoring a channel](#) (by hovering the cursor over it) and use [the up or down arrows](#) on the keyboard to change gain.
- Move channels by left clicking, drag and drop.
- [Right click on underscored channel](#) to set clipping, scale, and color.
- You can have any of the above actions affect a grouped set of waveforms, eg. all CS or all Surface ECG, by holding the shift key while performing the above functions. **Reminder: Catheter channels must be marked as a group in the amplifier configuration to enable this function.**

## Pacing & Stim-Site Setup

### Pre-configured Stim Setup



- Start by choosing where (which channel) you want to pace from. It should be the channels you pace from most during a study. Click on the **ICON** for new stim setup (the yellow box next to the red X.), Click **enter**. Then choose the channel name that you want to stim from, select the Stim channel and the program will put the rest in. Click apply or save and you have created a stim site at the top of the Real-Time screen (see next picture).
- Select a [Stim Configuration](#) on the Real-Time Screen above the waveforms and to the right of **Stim**. The pre-configured IC pacing channels will appear in the upper right corner. [Change pacing site through the Cardiac Stimulator](#).



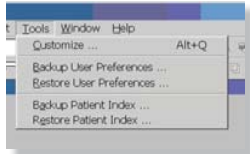
### On-The-Fly Stim Setup

- Or on the [Real-Time screen](#) [underscore desired catheter site channel you want to pace from](#) with your cursor, right click and select [Stim and Detect 1](#). You can now pace through the selected electrodes through [Channel 1](#) or any channel that is available on your Cardiac Stimulator.

Three Areas of Customization **\*\***(if you know these, you can get through any study)

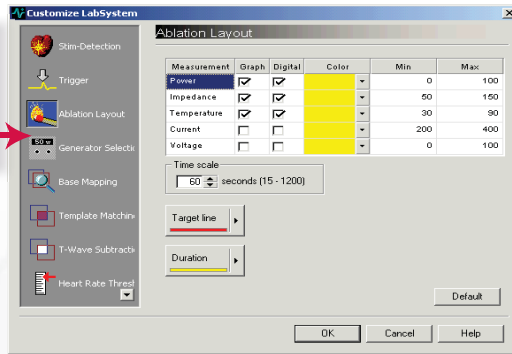
# 9 Tools → Customize (shortcut = Alt+Q)

- The **Customize LabSystem dialog box** gives you access to numerous customization features that control the operation of the system. Because operators may prefer to customize one, several, or all **customization properties** at once, you can access and complete many system customizations from the Tools → Customize drop-down menu.



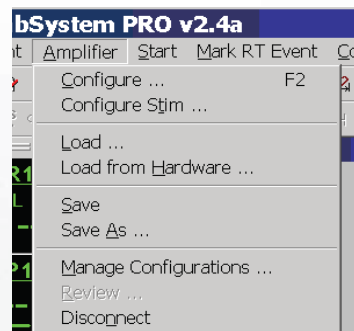
- The specific areas of customization are as follows: **Stim Detection, Trigger, Ablation Layout, Generator Selection, Base Mapping, Template Matching, T-wave Subtraction, Heart Rate Threshold, Real-time Status Window, Review Status Window, Printing, Patient Log, Marking for Archive, Holter, Colors, Fluoro, and Miscellaneous.**

These are the pages for each part of the system that you can customize.

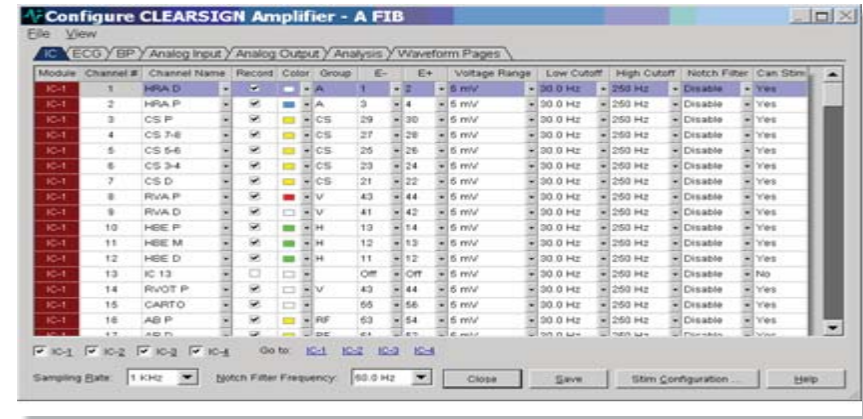


# 10 Amplifier → Configuration (shortcut "F2" key)

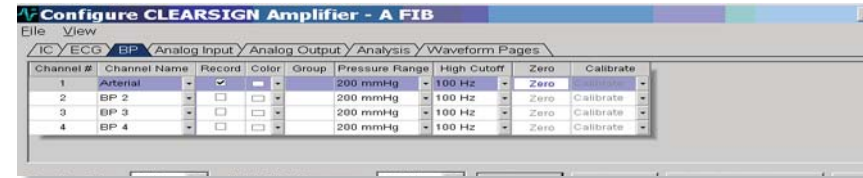
The Amplifier Configuration menu offers complete customization and setup of how the LabSystem software and Amplifier hardware communicate. This includes customization of the intracardiac channels, surface ECG, pressure channels, stim configuration, filtering channels, labeling, colors, grouping, and configuring channels.



## Amplifier Configuration Screen



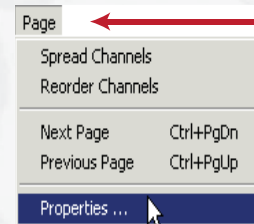
To Zero the BP, click on the BP page tab, and click on Zero



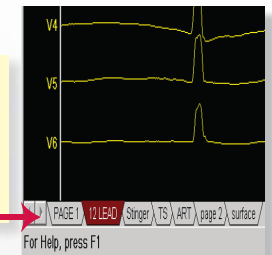
For a complete explanation of features and setup instructions. Search the LS PRO "HELP" for "Amplifier Configuration."

## Page → Properties at the TOP of the Real-Time Screen

- Your system can record and display up to 180 channels of information. However, 180 channels are too many channels to usefully display on-screen at one time. To solve this problem, the system provides a **Page Properties** bar in the Real-time window for **creating, editing, and removing pages**, and there is no set limit to the number of pages that can be created. Each page can display as many or as few channels as you wish, and channels can be grouped in ways that are meaningful to you. Once these pages are set up, you can easily switch from one page to another.



Click **Page** at the top of the "Real-Time" screen or double click on the Page Tab at the bottom of the Real-Time screen



## Page Properties

Waveforms on each page can be clicked on or off from here.



Make new page, delete, move up, move down.

You can name the pages at the top of the Page Properties Bar and select the channels you would like to display on each page by checking the box next to the channel. You can set the scale and color for each channel or set the channel's color to be the same on all pages. In addition, you can also set a default scroll rate for a page. The page will automatically set to that scroll rate. You can change the page's scroll rate when it is opened.

Page Properties on Real-Time Screen

EP Logix™ Mapping and Analysis Suite is a unique tool set that contains the following software features in Sections 12 - 14.

## 12 ElectroView™ 3D Mapping Software (EV)

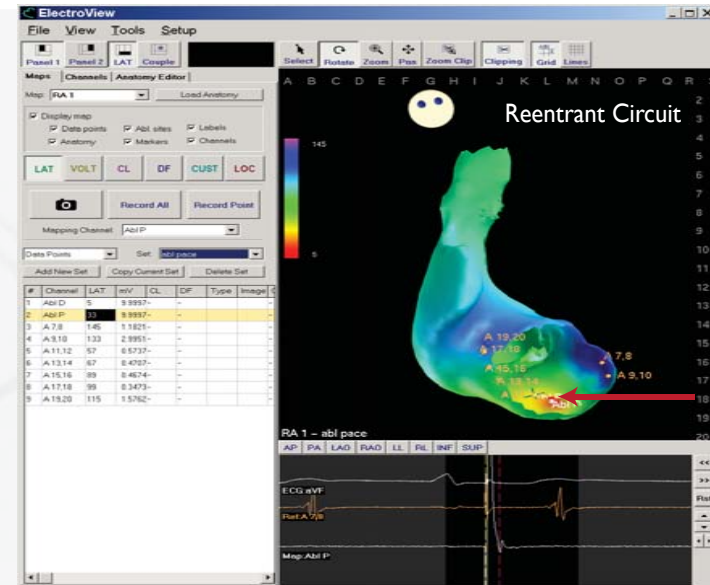
- Start the ElectroView™ 3D Mapping Software by clicking the Heart Icon  on the ElectroView Toolbar. If not displayed, select **View > Toolbars > ElectroView**. The EV window will open.
- Input Activation Code from catheter and select arrhythmia.
- Load Anatomy Template (LA, RA, RV, LV).
- Press F8 on LabSystem™ Pro EP Recording System to capture/log event and click “Send” arrow  on the EV toolbar to send channel info to ElectroView.
- Under the Channels tab on the ElectroView screen, select the **ECG, Reference, and Mapping Channels**.
- For Activation Map, click **LAT**.

See Separate ElectroView™ 3D Mapping Software Quick Reference Guide for more instructions. Or look in “HELP” for ElectroView.





## EV (con't)

- Place a marker set in the Review Screen by right clicking in the grey area to the right of the scroll rate (at the top of the waveform window) and select one of marker sets on the list.
  - Right click on marker set arrow and select **EV ROI** (Region Of Interest).
  - When mapping, press **F8** to capture/log event.
  - Double click on map to assign point, and click **Record Point**. Once 3 points are recorded, the electrical information will Interpolate.
  - The activation lines can be adjusted in the ROI window in EV.
  - Use “New Set” to create post-ablation map with same geometry.
  - For Dominant Frequency Map(DF), click **DF**.
  - Hold mapping catheter stable in PV for > 8 sec and press F8.
  - Double Click on map to assign point, and click **Record Point**.
  - Right click in the data set log for that point and select **Display Signal**.
  - Select **Get DF from FFT** if you have a good signal sample (DF= 4-9, OI >.2).
- Multipole Catheter Templates can also be made and all poles recorded simultaneously by clicking “Record All.”
  - You can also use EV for Voltage, Cycle Length, or Custom Maps

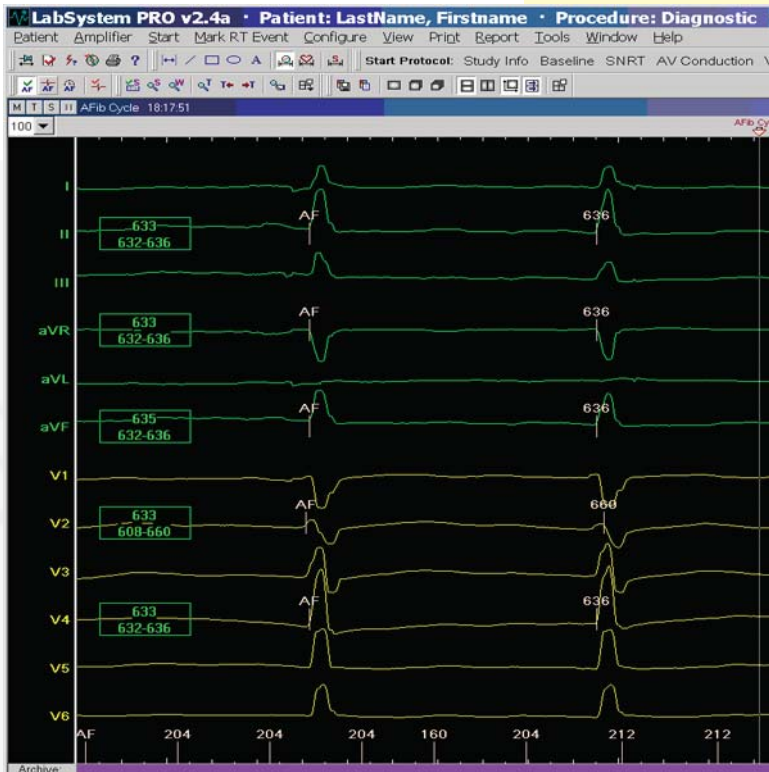
## ElectroView Map




# 13 AF Cycle Length

- Right click in the “GRAY” area at the top of the “REVIEW” screen and select the **Toolbars > AFib CL** to display AFCL toolbar.
- Click  and select channels to analyze and then click  to turn on AFCL analysis.
- Press **F8** to log event and click  to analyze Review Screen or  to analyze 1 min. of data.
- The range of cycle lengths and the mean will be displayed in the green box on the left of the waveform.
- To add or delete measurement markers, click on waveform and press the **INS** or **DEL** key.

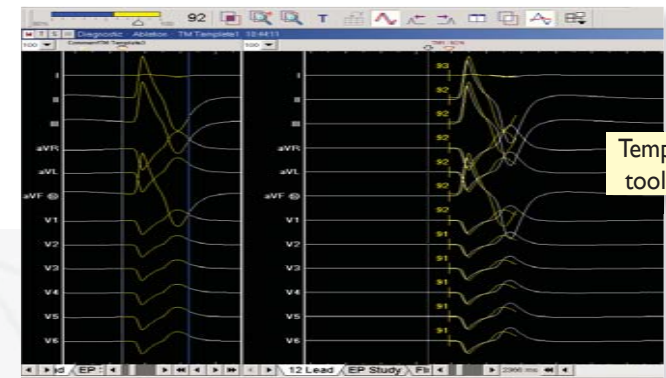
Cycle Length displayed on Review Screen






# 14 Template Matching

- Mapping - provides tools for mapping analysis.
- Base Template matching analysis - allows you to match two waveform segments morphologically.
- T-Wave subtraction analysis - lets you subtract a template from a T-Wave waveform to recover an obscured P wave.
- To access the mapping feature, click  the mapping view button or **Ctrl + M** from the review screen.


On the review screen, two things have changed. The mapping toolbar is now displayed in the toolbar area at the top of the review screen.



Template matching toolbar


- Second, the review screen has been split into two separate screens.
- Make a template to match or subtract by clicking on the **New TM (Template Matching) Template icon**  or click on the **New Subtraction Template icon**  in the mapping toolbar above.
- Use calipers to select template.
- Right Click on channel to select **Reference channel or Trigger channel** (usually waveform with sharp positive deflection).
- Click on one of the **analysis icons**  in the mapping toolbar to begin mapping analysis. **The first icon is for continuous analysis. The second is for a single beat analysis. NOTE: long-term use of continuous analysis will decrease system performance.**

# 15 Trigger Function

- To access the trigger feature, click  the trigger view button or Ctrl + T from the review screen.

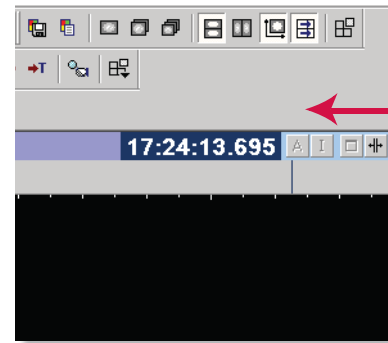
Two ways to get the "Trigger" function



- From the review screen, right click the specific waveform that you want to set as the trigger channel. Scroll down the menu and click trigger. Adjust the trigger line by left clicking and holding the  indicator while moving the trigger line above or below the baseline of the selected trigger channel. The review screen now becomes an active trigger screen. See Tools → Customize → Trigger for additional trigger customization features.

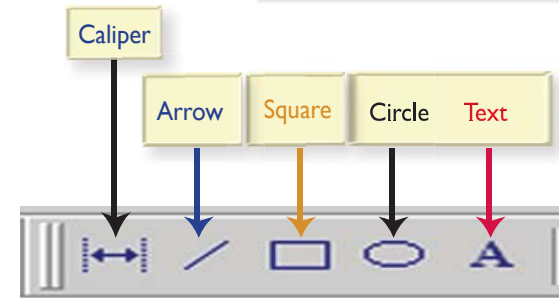
# 16 Copy Waveforms to (MS) Microsoft® PowerPoint or (MS) Microsoft® Word

- You need to open your MS PowerPoint or MS Word Program while you have your LabSystem™ PRO Recording System running.
- Use your mouse to move your MS PowerPoint window to the "Right" Screen. Click and hold your mouse on the "Blue" area at the top of MS PowerPoint window and slide it to the "Right" screen.
- Now look at the LabSystem Review screen and find your "IMAGE CAPTURE" and "ANNOTATION" tool bars.



"Right" click in this "GRAY" area to get a list of tool bars.

The "ANNOTATION" tool bar gives you the ability to label your waveforms and print the information with the waveform.



This is the button you will be using to copy your page or waveform

When you find the area you want to save and copy into PowerPoint, you will need to HOLD the "Shift Key" and click on the "Image Capture" icon.



Shift button

# 16 Copy Waveforms to Microsoft® PowerPoint or Microsoft® Word (con't)



Hold the "SHIFT" key and click on the "IMAGE CAPTURE" icon.

Then

Use your mouse to draw an imaginary box around the area you want to copy.

If you hold "SHIFT" and "CTRL," you will copy the image in Black & White.  
If you hold just "SHIFT," it copies it in Color.

Print Screen Button



Alt Button on both sides of the space bar

If you press the "PRINT SCREEN" button, you can then right click in your MS PowerPoint or MSWord document and both screens of the LabSystem will appear when you paste the image (CTRLV).

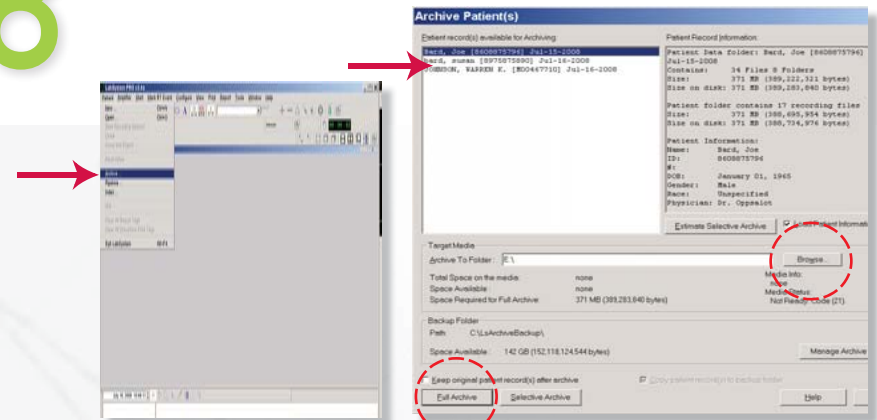
If you press "ALT" & "PRINT SCREEN" buttons, only the screen you have clicked on will appear when you right click in your MS PowerPoint or MS Word document and paste the image (CTRLV).

# 17 Stop Recording After A Case

From the Patient menu at the top of the review screen, click **Stop Recording Session**.



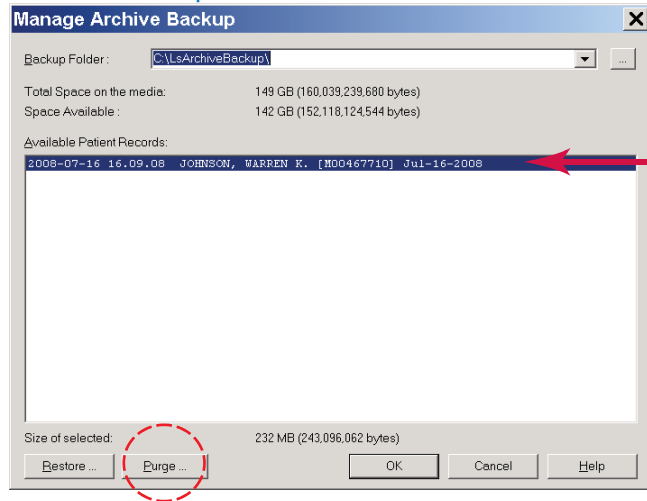
# 18 Archiving Cases to DVD or your network



- First **close your current patient study** from the Patient Menu.
- From the **Patient Menu** click on **Archive...**
- **Highlight Multiple Patients** by holding "CTRL" key and left clicking in chronologic order.
- Use the browse button to select D:\ for DVD archive or another network folder if available (must be set up by hospital IT dept.)
- Click on **Full Archive** at bottom of window.

# 19 Purging the C:\ drive

- When done archiving (and after verifying DVD contents), click on [Manage Archive Backup](#).



Highlight patients to be purged.

- Select [All Patients](#) by holding down “SHIFT” key and left click on first then last patient in list.
- Click [Purge](#).  
This area (the C:\ drive) needs to be kept clean or it will slow your system down. You should purge at the very least once a month.

# 20 Other References

**HELP TOPICS:** Help → Help Topics (F1) - Opens LSPRO help menu.

**ABOUT LABSYSTEM:** Help → About LabSystem - Provides detailed information about software version and build as well as current amplifier firmware version.



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