Quick reference guide

MyLabSix™

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Manufactured by:
Esaote Europe B.V.
Philipsweg 1
6227 AJ Maastricht
The Netherlands
Tel. +31 (43) 382 4600
Fax +31 (43) 382 4601
Internet: www.esaote.com
Email: international.sales@esaote.com

CE
0344

Quick reference guide

MyLabSix™

Introduction

This Quick Guide describes only the basic operating procedures to use the **MyLabSix** model, named in the following chapters as **MyLab**.

The precautions and detailed operating procedures as well as the installation procedures are described in the operator's manuals (Getting Started, Safety and Standards, Probes and Consumables and Advanced Operations) provided with the system.

Carefully read the operator's manuals provided with the system before operating with the system.

In this manual system the **Control panel keys** are indicated by **BLUE CAPITAL LETTERS**. **Multifunction keys** (for example **LINE UPDATE**) are indicated with the mention of one of the functions only (for example **LINE** in this example).

The enter and context menu keys are respectively indicated as **ENTER** and **UNDO** keys in this manual.

WARNING

In this operation guide a WARNING pertains to possible injury to a patient and/or the operator.

CAUTION

A CAUTION describes the precautions which are necessary to protect the equipment.

Carefully read and understand all the warnings and cautions in the manuals before operating with the system.

The user should observe each of the cautions and warnings.

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General Information

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Touchscreen

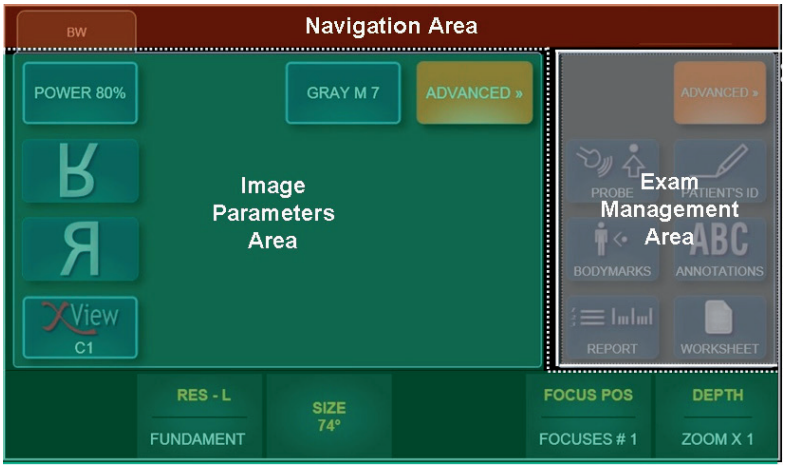
The touchscreen works in different modalities:

- as **Exam panel**, providing control keys to perform the exam.
- as **Multipurpose panel**, providing software buttons to use advanced exam controls.
- as **Alphanumeric keyboard** to enter data.

The touchscreen layout depends on the working modality.

Exam Panel Layout

The touchscreen is organized in three main areas, as shown in the figure below



Area	Function	Guide Graphical Convention	Scrolling Button
Navigation Area	Navigation tabs to select the desired features for the relevant controls	**BROWN CAPITAL LETTERS**	-
Exam Management	Buttons for the exam management (to start the exam, to change the probe or the preset…)	**GREY CAPITAL LETTERS**	ADV>>/BASIC<<
Image Parameters Area	Control and functions to perform the exam	**BLACK CAPITAL LETTERS**	ADV>>/BASIC<<

Buttons

Image Parameters Area – Layout

The buttons have different colors depending on the active status:

Disabled Button	Active Button	Selected/Pressed Button
		
Dark gray	Dark blue	Light blue

Button with sub-menus

Touchscreen buttons showing a frame have a dedicated sub-menu: press the button to display the sub-menu allowing to optimize the function.

Toggles

On the bottom of the touchscreen there are six levers (or **toggles**) which act on the functions displayed just above.

	Each lever can control two functions which depend on the active modality. The lever acts on the active control, displayed in the upper position. To switch to the other displayed function press the corresponding button on the touchscreen: the lever will act now on the other control.

Multipurpose Panel Layout

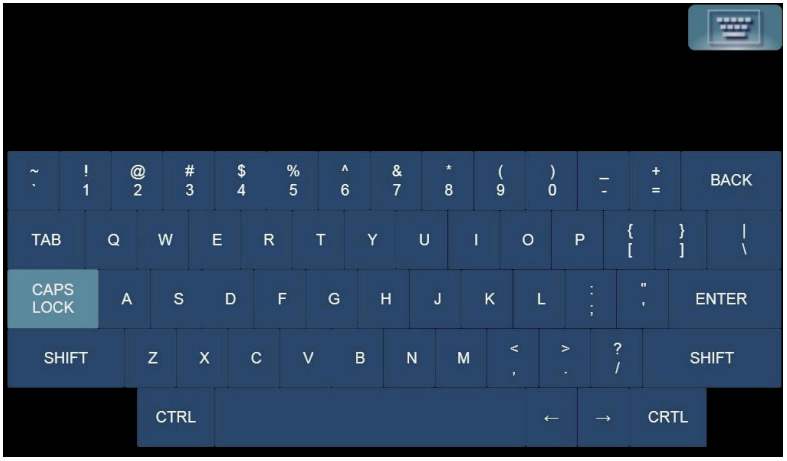
This layout is used for advanced exam functions, for example body marks or annotations.

The touchscreen is organized in three main areas.

Area	Function	Guide Graphical Convention	Scrolling Button
Navigation Area	Navigation tabs of the selected functions	BROWN CAPITAL LETTERS	-
Management Area	General controls of the active modality	GREY CAPITAL LETTERS	ADV>>/BASIC<<
Parameters Area	More specific controls of the selected function	BLACK CAPITAL LETTERS	ADV>>/BASIC<<

Alphanumeric Keyboard Layout

A dedicated button displayed on the upper right side activates/deactivates the emulation of the alphanumeric keyboard.



eTouch

The **ETOUCH** key allows to record sequences of keys both of the touchscreen and of the control panel. Each recorded sequence (Macro) can be named and saved to be available as a customized button in customized touchscreens.

This key switches between factory and customized touchscreen. Whenever the customized button will be pressed, **MyLab** will automatically launch the keys sequence.

Once the Customized touchscreen has been configured, it has to be associated to a real time preset.

Configuration **Menu**

The "eTouch" option of the **MENU** key activates the configuration menu that is organized in two main areas:

- On the left side the list of all saved customized touchscreens.
- On the right side the eTouch configuration menu, shown in the figure below.

The menu shows:

- in the center the touchscreen layout.
- on the right the menu to record the macro and to edit the customized buttons.
- on the bottom the fields where customized touchscreens are named and described.

Customized Touchscreen Configuration

Procedure

- Press the **MENU** key and select the "eTouch" option.
- Select one the customized touchscreens displayed on the left side of the screen and press EDIT to modify it or CLONE to duplicate it.
- If necessary, place the cursor in the NAME field and enter the desired name and description (NOTES field).
- Place the cursor on the RECORDING field and press START to begin the recording: **MyLab** switches to the frozen status.
- On the upper left side of the screen is displayed the following flashing message:

Press eTouch to start recording

- Prepare **MyLab** to be ready for the recording so that only the keys to be used can be pressed.
- Press the **ETOUCH** key to start.
- Press the desired keys in sequence and press **ETOUCH** to end the recording.
- Place the cursor on the customized button and press **ENTER** to change its name.

Repeat the procedure to add other customized buttons.

Press SAVE to save the customized touchscreen.

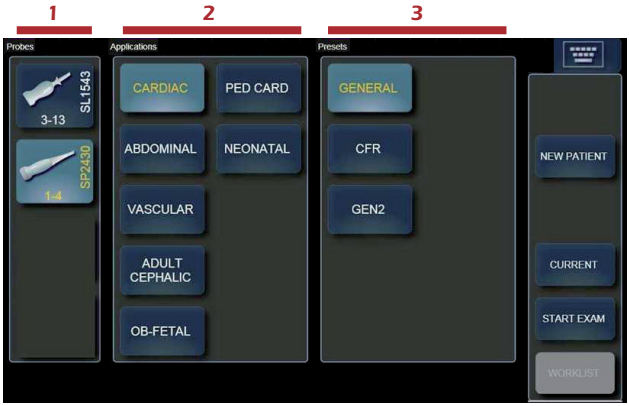
Association to **Real Time Preset**

Procedure

- Press the **MENU** key and select the "RT PRESET" option.
- Select the probe, the application and then the customized presets (displayed on the left side of the screen) and press EDIT to modify it or CLONE to duplicate it.
- If necessary, place the cursor in the NAME field and enter the desired name and description (NOTES field).
- In the "eTouch" field select the desired customized touchscreen.
- Press SAVE to save the configuration.

Starting an Exam

Touchscreen



Main Display

Procedure

1. Probe selection.
2. Application selection that depends on the selected probe.
3. Preset selection.
4. Patient data and application data entry using the touchscreen as alphanumeric keyboard.
5. Press the **START EXAM** button to start the exam.

CURRENT retrieves the patient data of the last exam.

PROBE allows to select a different probe, application, preset and to set a new preset or to modify the actual one during the exam.

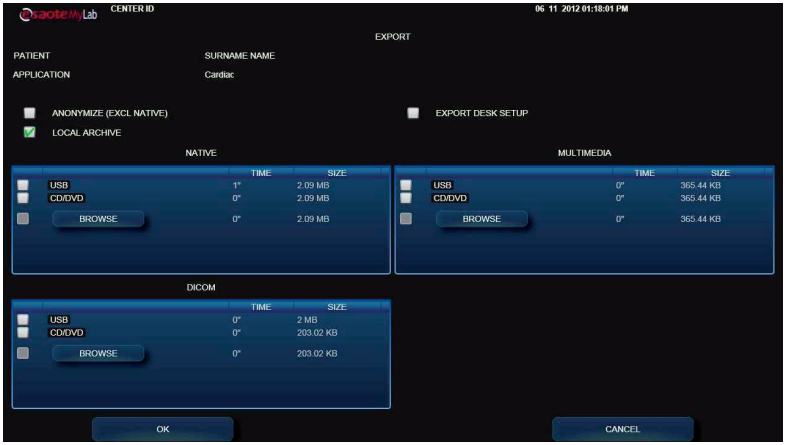
PATIENT ID allows to view and modify the patient's data during the exam.

WARNING

Do not use the PATIENT ID key to start a new exam of a new patient as it will update existing patient's data with new entries. To activate a new exam, close first the current exam by pressing the END EXAM key and then proceed with the Starting Exam procedure.

Ending an Exam

To end the exam, press the **END EXAM** key: the system displays the end exam window.



The operator is enabled to simultaneously save the exam on different supports in different formats.

Field	Format	Destination Support
Local Archive	Native format	- Internal Database
Native	Native format	- CD (R and RW) - DVD (+R, -R, single layer) - USB Memory Drive - Network
Multimedia	Single frame: BMP, PNG, JPEG Clip: AVI	- CD (R and RW) - DVD (+R, -R, single layer) - USB Memory Drive - Network
DICOM	DICOM	- CD (R and RW) - DVD (+R, -R, single layer) - USB Memory Drive - Network - DICOM Storage Server

If no option is selected, all data will be deleted.

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Image Optimization

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B Tips in B-Mode

Tips to Optimize Superficial Imaging

Command	Function	Action
FUNDAMENT/TEI	Probe transmission frequency	Select **RES** option
ZOOM	Magnification of the region of interest	Enlarge the area as much as possible
FOCUSES #	Number of transmission focuses	Increase the focuses
FOCUS POS	Focus position	Move the focuses to the desired area
MVIEW (with Linear and Convex probes)	Acquisition of several bidimensional images with different steering angles	Increase to visualize organ borders and structured margins (curved or irregular borders)

Tips to Optimize Deep Imaging

Command	Function	Action
FUNDAMENT/TEI	Probe transmission frequency	Select **PEN** option
FOCUS POS	Focus position	Move the focus to the desired area
TGC Potentiometers	Amplification of individual areas of the sector	Move to right the lower TGC cursor
IMAGING GAIN	Amplification of overall received echo signals (General gain)	Turn clockwise for visualize deep structures
POWER	Transmission power	Increase the power

Tips to **Optimize Spatial Resolution**

Command	Function	Action
FUNDAMENT/TEI	Probe transmission frequency	Low frequency for penetration High frequency for resolution
MVIEW (with Linear and Convex probes)	Acquisition of several bidimensional images with different steering angles	Increase to visualize organ borders and structured margins (curved or irregular borders)
FOCUSES #	Number of transmission focuses	Increase the focus points as much as possible
DENSITY (with Linear and Convex probes)	Number of acquired line	Increase the density as much as possible
ENHANC	Amplification of the difference among adjacent structures	Increase the enhancement as much as possible

MView may generate artifacts on the sector sides, particularly when scanning cavities. Place the area under exam in the middle of the scanning area.

Tips to **Optimize Contrast Resolution**

Command	Function	Action
Imaging **AUTOADJUST**	Automatic adjustment	Activate it
TGC Potentiometers	Amplification of individual areas of the sector	Move to right to increase the gain Move to left to decrease the gain
IMAGING GAIN	Amplification of overall received echo signals (General gain)	Turn clockwise for higher contrast Turn counterclockwise for lower contrast
XVIEW	Activation of real time XView algorithm	Select or modify the desired algorithm to improve the tissue edge imaging
GRAY MAP #	Gray shades used to represented the received echo signal	Select or modify the desired post-processing curve
DYN RANGE	Range between minimum low intensity and maximum intensity signals that the system can display	Increase for higher contrast Decrease for lower contrast

Tips to **Optimize Temporal Resolution**

Command	Function	Action
SIZE	Scan angle	Reduce the size as much as possible
DEPTH	Probe's field of view	Reduce the depth as much as possible
FOCUSES #	Number of transmission focuses	If possible, set one focal point
DENSITY (with Linear and Convex probes)	Number of acquired line	Reduce the density as much as possible

Tips in M-Mode

Tips to Optimize Contrast Resolution

Command	Function	Action
TGC Potentiometers	Amplification of individual areas of the sector	Move to right to increase the gain Move to left to decrease the gain
IMAGING GAIN	Amplification of overall received echo signals (General gain)	Turn clockwise for higher contrast Turn counterclockwise for lower contrast
GRAY MAP #	Gray shades used to represented the received echo signal	Select or modify the desired post-processing curve
DYN RANGE	Range between minimum low intensity and maximum intensity signals that the system can display	Increase for higher contrast Decrease for lower contrast

Tips in Color Flow Mapping (CFM)

Tips to **Optimize Fast Flows**

Command	Function	Action
CFM-STEER	Doppler orientation	Adjust the CFM box orientation to optimize cosΘ
SCALE	Pulse Repetition Frequency	Increase the PRF as much as possible
FREQUENCY	Probe transmission frequency	Decrease the frequency as much as possible
DOPPLER GAIN	Amplification of overall received echo signals (General gain)	Adjust it to the reduce the noise
ACTION	Cursor selector	Adjust the CFM box as small as possible

Tips to **Optimize Slow Flows**

Command	Function	Action
CFM-STEER	Doppler orientation	Adjust the CFM box orientation to optimize cosΘ
SCALE	Pulse Repetition Frequency	Increase the PRF as much as possible
FREQUENCY	Probe transmission frequency	Increase the frequency as much as possible
DOPPLER GAIN	Amplification of overall received echo signals (General gain)	Increase it as much as possible for color filling
FILTER	Wall filter	Reduce the filter as much as possible

Tips to **Optimize Deep Flows**

Command	Function	Action
CFM-STEER	Doppler orientation	Adjust the CFM box orientation to optimize cosΘ
SCALE	Pulse Repetition Frequency	Decrease the PRF as much as possible
FREQUENCY	Probe transmission frequency	Decrease the frequency as much as possible
DOPPLER GAIN	Amplification of overall received echo signals (General gain)	Increase it as much as possible for color filling
FILTER	Wall filter	Reduce the filter as much as possible

When the CFM-STEER is set to the maximum step, some artifacts might occur showing color dots. In this case, reduce the steering by one step.

Tips in Doppler

Tips to **Optimize Fast Flows**

Command	Function	Action
D-STEER	Doppler orientation	Adjust the CFM box orientation to optimize cosΘ
PW **CW** (in Cardiac)	Pulsed/Continuous Wave Doppler	According to the active application, activate the Doppler analysis by pressing the button
Doppler **AUTOADJUST**	Automatic adjustment	Activate it
SCALE	Pulse Repetition Frequency	Increase the PRF as much as possible
FREQUENCY	Probe transmission frequency	Decrease the frequency as much as possible
DOPPLER GAIN	Amplification of overall received echo signals (General gain)	Increase it as much as possible to the display the whole flow

Tips to **Optimize Slow Flows**

Command	Function	Action
D-STEER	Doppler orientation	Adjust the CFM box orientation to optimize cosΘ
Doppler **AUTOADJUST**	Automatic adjustment	Activate it
SCALE	Pulse Repetition Frequency	Decrease the PRF as much as possible
FREQUENCY	Probe transmission frequency	Increase the frequency as much as possible
BASELINE	Baseline	Move the baseline to eliminate the aliasing
FILTER	Wall filter	Reduce the filter as much as possible

Tips to **Optimize Deep Flows**

Command	Function	Action
D-STEER	Doppler orientation	Adjust the CFM box orientation to optimize cosΘ
Doppler **AUTOADJUST**	Automatic adjustment	Activate it
SCALE	Pulse Repetition Frequency	Decrease the PRF as much as possible
FREQUENCY	Probe transmission frequency	Increase the frequency as much as possible
BASELINE	Baseline	Move the baseline to eliminate the aliasing
FILTER	Wall filter	Reduce the filter as much as possible

My Notes

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Measurements, Worksheet and Report

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Measurements

Measurements can be taken on frozen, stored and archived images.

Generic Measurements

Either the **+...+** panel key or the **+...+** touchscreen button activate the generic measurements menu. The touchscreen displays the list of available measurements, which are automatically identified according to the active mode, application and preset.

Advanced Calculations

Either the **MEASURE** panel key or the **MEASURE** touchscreen button activates the advanced calculations menu. The touchscreen displays the list of available measurements, which are automatically identified according to the active mode, application and preset.

Advanced measurements are organized in groups which correspond to specific anatomic structures. When a group is selected, the corresponding tab is displayed on the Navigation area and the measure is automatically started. The touchscreen displays the available measures of the selected group.

MyLab generic measurements and advanced calculations package are fully configurable.

How to Take Measurements

Both for generic and advanced measurements, the touchscreen displays the list of available measurements: select the desired measurement by pressing the corresponding button. Follow the instructions on the screen, position the cursors with the trackball and confirm the position by pressing **ENTER**.

The value being measured is displayed on the left of the image.

The measurements taken are marked with the √ symbol in the touchscreen.

CLEAR cancels all measurements from the screen.

UNDO key closes the session, erasing all done measurements.

ADD TO RP adds the generic measurement to the exam worksheet and report.

MyLab Worksheet

WORKSHEET button can be pressed at any time to display all performed measurements.

The worksheet is organized in pages, one page for each application indicated by the corresponding tab. Each application page is then organized in sub-folders, corresponding to the measured modes and groups, identified by corresponding sub-tabs.

Touchscreen buttons allow to navigate the worksheet.

The lateral scrolling bar can be used to scroll all performed measurements in the selected mode or group.

Deleting measurements

To delete single measurements or measurements groups, place the cursor on the cross displayed beside the single measurement a/o group and press **ENTER** to confirm.

MyLab Report

REPORT button can be pressed at any time to display the report print preview containing the patient data and all measurements performed during the exam.

If the system is configured with a PC printer, use the printer key to print the report.

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MyLab Archive

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MyLab Archive

ARCHIVE key accesses to internal **MyLab** archive.

Archived exams are listed in alphabetic order. The folder symbol, when shown on the archived exams list, indicates that the corresponding exam contained images/clips.

The thumbnail of the selected exam is displayed on the right side of the screen: when more exams are selected, the thumbnail corresponds to the last selected exam.

OPEN automatically displays the selected exam(s). When more exams have been selected, the tabs displayed above the thumbnails columns allows to browse the data of the reviewed exams.

To display a thumbnail full screen, place the cursor on the desired thumbnail and press **ENTER**.

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ESAOTE EUROPE B.V.
P.O. Box 1132, 6201 BC Maastricht, The Netherlands
Tel. +31 (43) 382 4600 - Fax +31 (43) 382 4601 info@esaote.nl
www.esaote.com