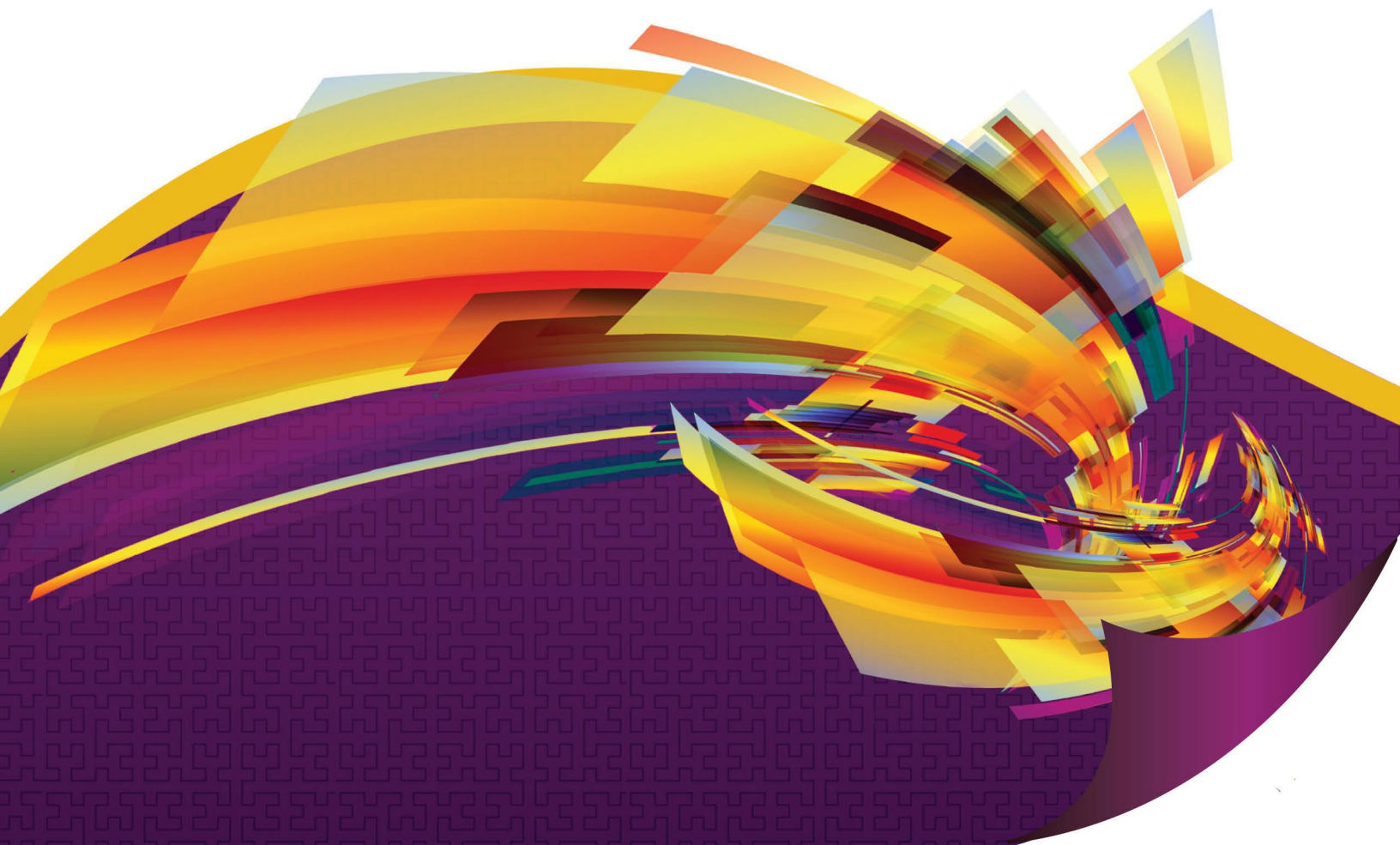


Stitch Regulator Upgrade User Interface Manual

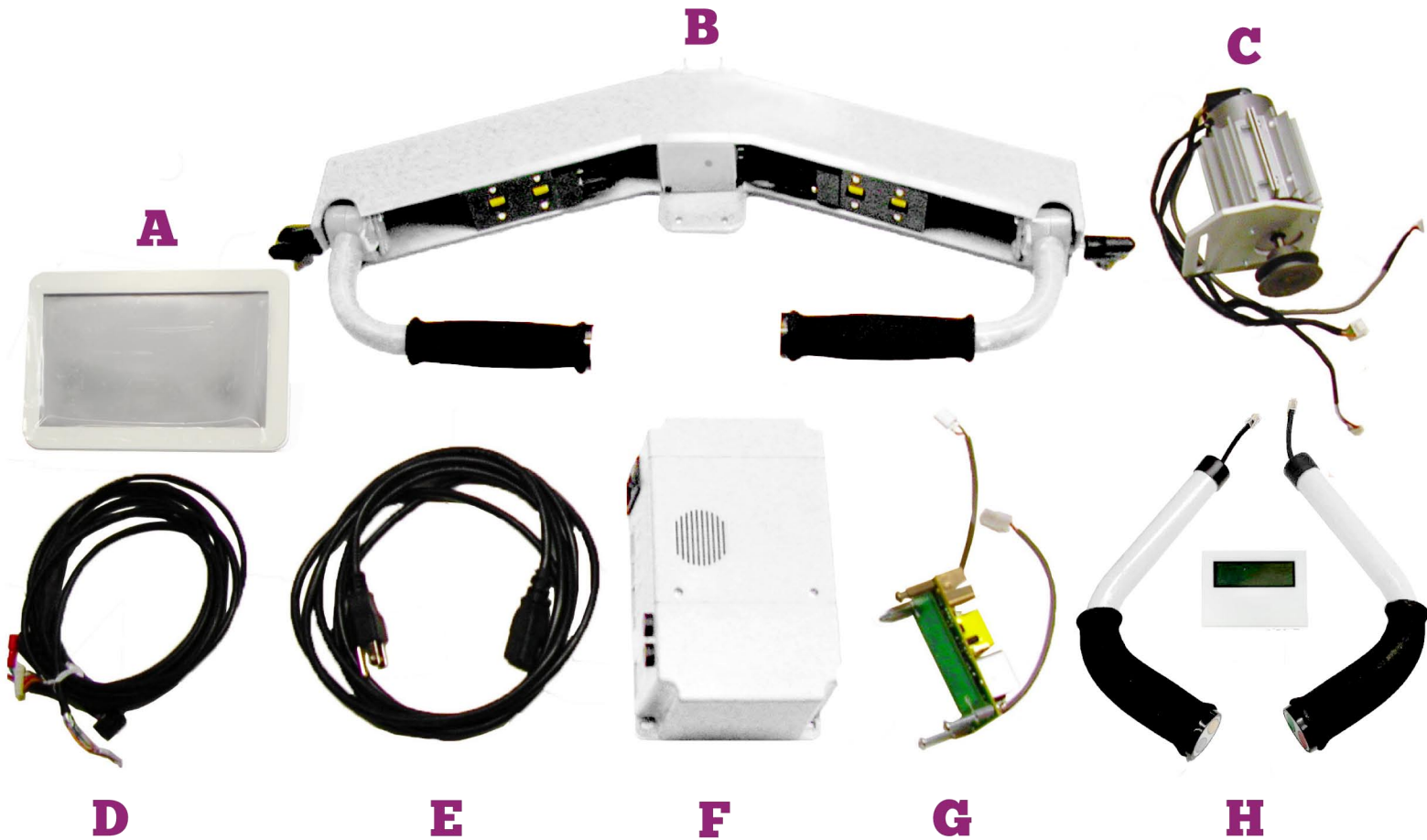


About Stitch Regulator Upgrade

The Stitch Regulator makes any quilting machine “NEW” again.

The Stitch Regulator is the perfect answer for quilters looking to personalize their machine with their favorite color, achieve perfect results with the markets’ leading stithec regulator, stitch smoothly around corners, and control the machine with ease using a color display. Not only is it the best machine upgrade, it makes other machines jealous!

PARTS



	Description
A	7" Android Tablet
B	Ergonomic, Adjustable Handle Bars
C	High Power Density Brushless Motor
D	Handle Bar/Display Wires
E	3-Pronged Power Cord
F	Stitch Regulation Control Box
G	Dedicated Handle Bar Power Supply
H	Rear Display/Handle Bars

(Part colors may differ from current picture)

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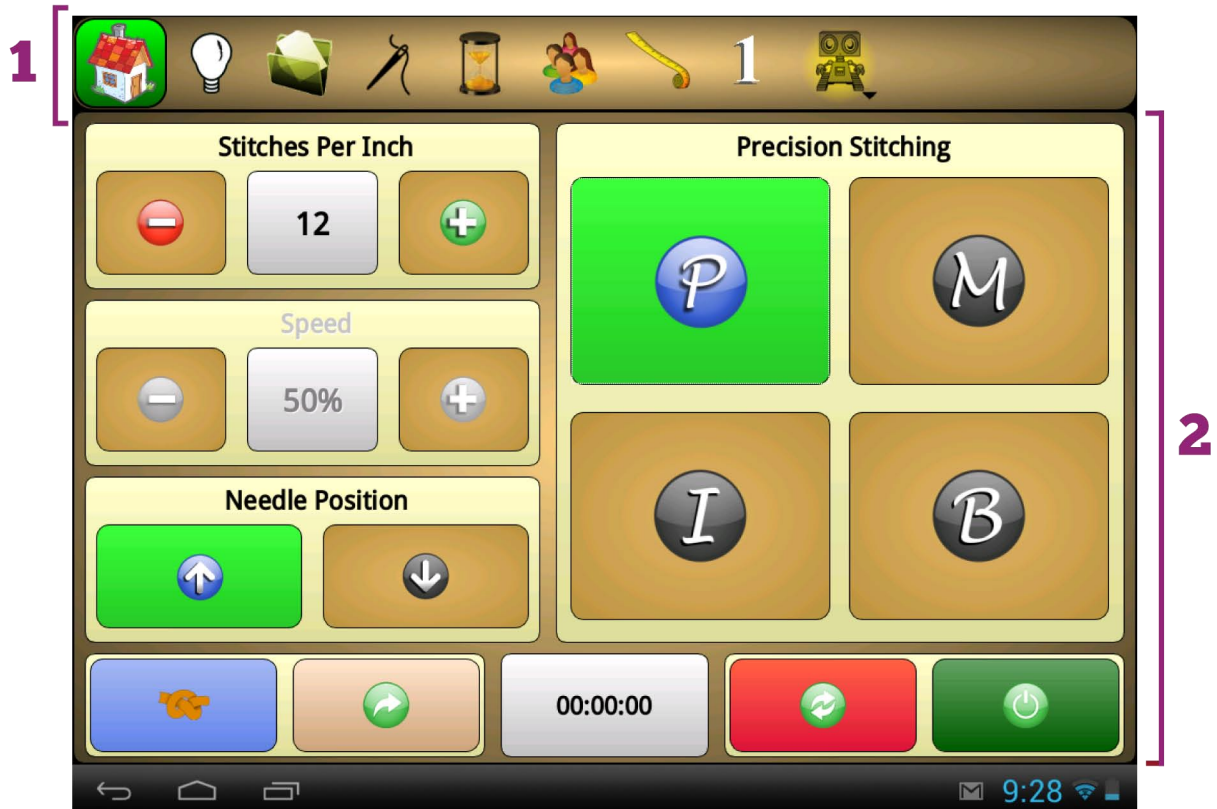
8

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TABLET USER INTERFACE

The Tablet UI is divided into two main parts: (1) **Navigation** and (2) **Display**.



Navigation

Icon Names

From left to right, the touchable icons in the navigation area are:

- » HOME
- » LIGHTING
- » FILE MENU
- » SEWING
- » PARAMETERS
- » COUNTERS
- » PROFILE
- » SETTINGS
- » MEASURE
- » ROBOTICS

Active Navigation Menu

The active menu is indicated by a green box highlighting the navigation icon. In the screenshot above, **HOME** is the active menu.

Non-menu Navigation

Icons

The number on the far right of the navigation is not a menu.

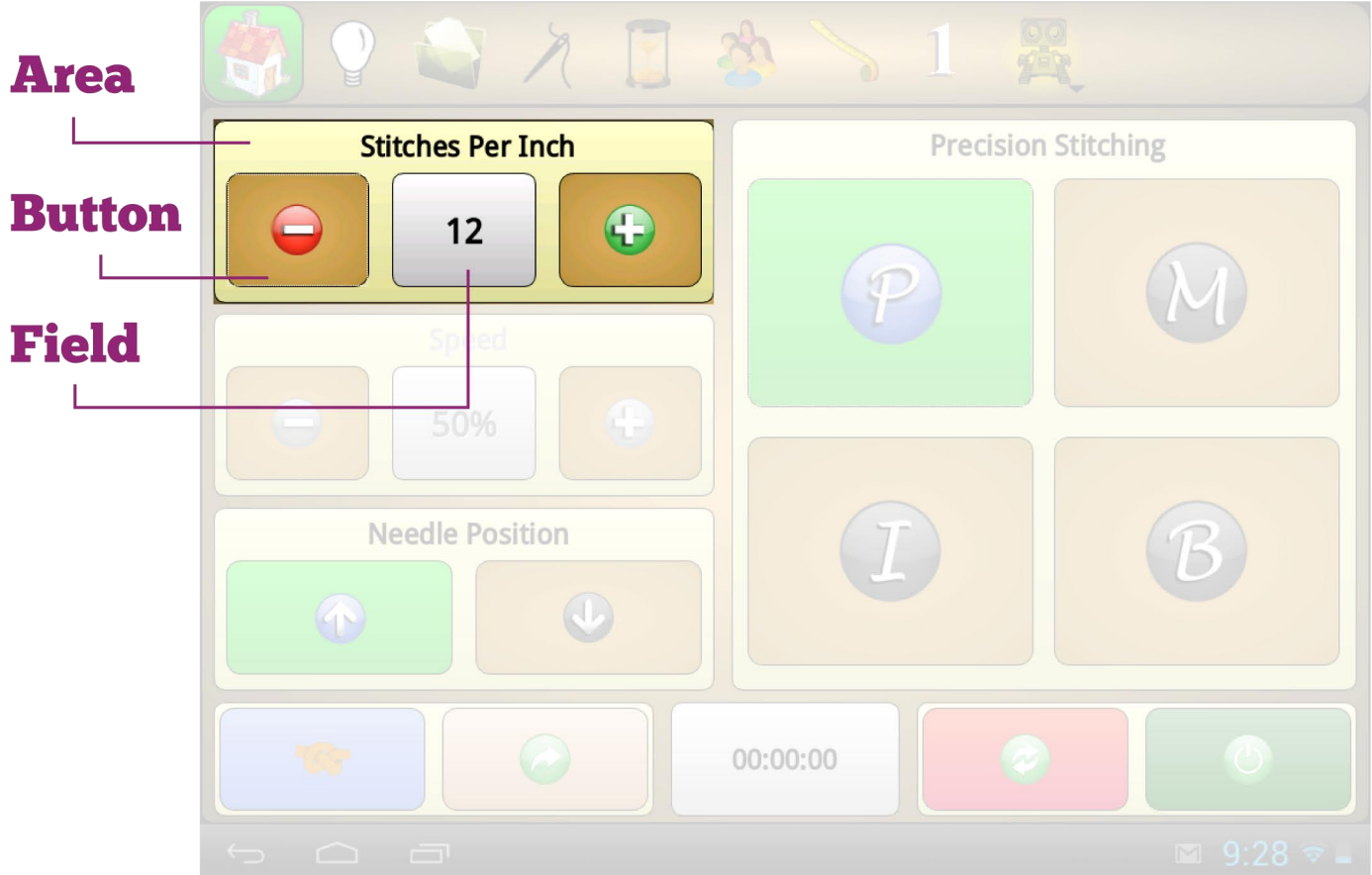
It displays the currently active quilter profile.

1

Display

Parts of a Menu

The display of each menu consists of areas, buttons, and fields.



Area

An area is defined by a light tan box with rounded corners.

Button

A button is anything that can be pressed to perform an action.

Field

A field is where numeric data is displayed.

HOME

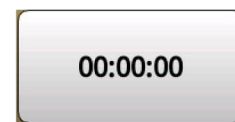
The **HOME** menu consists of the (1) **counter** field and five areas: (2) **stitch spacing**, (3) **speed**, (4) **needle position**, (5) **stitching mode**, and the (6) **handlebar buttons**.



Counter

What It Does

The **Counter** displays your current total runtime. (See page 28 for more about the **COUNTERS** menu.)



Counter

Counter Menu

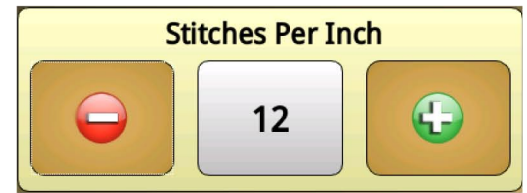
Tapping on the **Counter** field will take you to the **COUNTERS** menu.

Stitches Per Inch (Stitch Spacing) //

What It Does

The **Stitches Per Inch** field shows you how many stitches per inch your machine is quilting.

To increase or decrease the stitch spacing, press the plus or minus button.



Stitch Spacing

Quilter Profile Stitch Spacing

Any changes made to the **Stitches Per Inch** setting will also change the stitches per inch of the active quilter profile's stitches per inch settings.

Units of Measurement

If Perfect Stitch is set to metric units, the stitch spacing is shown as millimeters per stitch.

Speed //

What It Does

Speed adjusts the speed at which your machine stitches. It measures this as a percentage of the maximum speed, which is about 3,000 stitches per minute.



Speed

Stitching Mode Speed

Only the Manual Stitching and Idle Stitching modes allow you to adjust stitching speed.

Needle Position //

What It Does

Needle Position determines which position your needle will rest in once the machine arm has stopped.

The needle position is a general setting that applies to all stitching modes.

Use the up and down buttons to set your needle position setting.



Counter

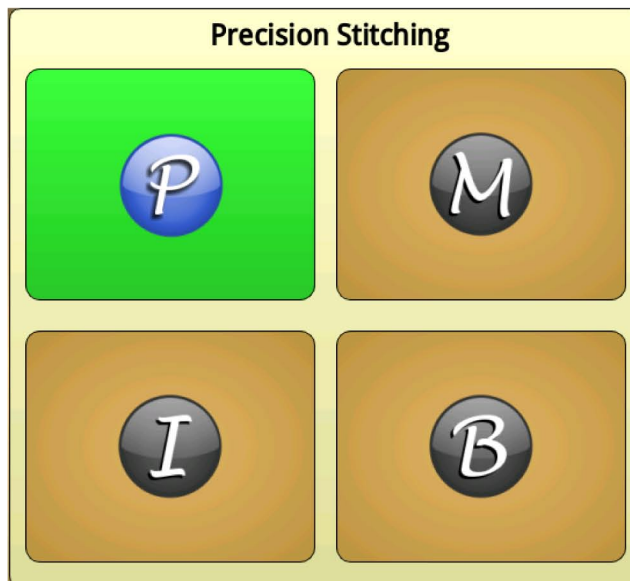
Stitching Mode

What It Does

Perfect Stitch has four (4) different stitching modes available for use:

- » Precision Stitching
- » Manual Stitching
- » Idle Stitching
- » Baste Stitching

The green button indicates the active stitching mode. To switch to a new stitching mode, tap the appropriate button.



Stitching Modes

Stitching Mode Settings

There are two possible settings for each stitching mode: speed and stitch spacing (SPI).

You can adjust the stitching mode settings either by using the **Stitches Per Inch** and **Speed** on the **HOME** menu or by accessing **Settings** in the **PROFILE SETTINGS** menu.

Stitching Mode Setting Restrictions

Adjusting stitching mode settings varies by stitching mode. The table at right indicates which settings can be adjusted for each stitching mode.

Stitching Mode Settings

Stitching Mode	Adjust Speed	Adjust SPI
Precision Stitching	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Manual Stitching	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Idle Stitching	<input checked="" type="checkbox"/> *	<input checked="" type="checkbox"/>
Baste Stitching	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Precision Stitching

While in the Precision Stitching mode, the speed of the needle is regulated by how quickly or slowly you move the handlebars. To give you consistent, even stitches, the needle only stitches after you press the start button and move the handle bars.

Speed Settings

Because Precision Mode regulates the stitching speed to ensure consistent stitch spacing, you may not adjust the stitching speed.

Stitch Spacing (SPI) Settings

The stitch spacing can be set from 4 to 22 stitches per inch.

Manual Stitching

While in Manual Stitching mode, the motor stitches the needle at a constant speed regardless of whether you move the handle bars or not.

Speed Settings

Because Manual Stitching is constantly stitching, you may set the speed of Manual Stitching mode.

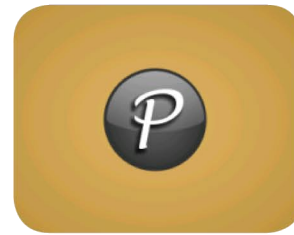
Stitch Spacing (SPI) Settings

Because Manual Stitching is constantly stitching, you may not set the stitch spacing of Manual Stitching mode.

Idle Stitching

Idle Stitching is a hybrid of both Precision Stitching and Manual Stitching.

While in Idle Stitching mode, the speed of the motor driving the needle adjusts to how quickly or slowly you move the



Precision Mode



Manual Mode



Idle Mode

handlebars. When you are not moving the handle bars, the machine will idle and eventually time out.

Speed Settings*

In Idle Stitching Mode, the speed set controls the speed at which the needle idles. This speed can be set from 5% to 40%.

*The speed setting for Idle Mode has no effect on the regulated stitching speed.

Stitch Spacing (SPI) Settings

Because the stitch spacing is regulated, you can set the Stitches Per Inch. Remember that when you aren't moving the handle bars, the needle will still stitch at an idle speed.

Baste Stitching

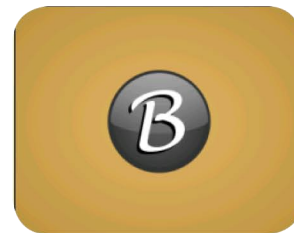
Baste Stitching is used to baste your quilt layers together.

Speed Settings

You may not adjust the stitching speed in Baste Stitching Mode.

Stitch Spacing (SPI) Settings

You can adjust the stitch spacing as normal.



Baste Mode

Handle Bar Buttons

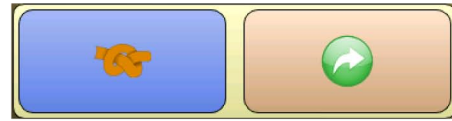
What It Does

Each handle bar of your Perfect Stitch upgrade contains two programmable buttons. These four buttons can be programmed to perform functions. For more on programming handle bar functions, see **PROFILE SETTINGS** on page 30.

Touchscreen Handle Bar Buttons

In addition to pressing the buttons on the handle bars, the programmed function for each button can be engaged by pressing the respective color key on the **HOME** menu display.

The blue and white buttons of the left handle bar are located in the lower-left corner of the **HOME** menu display, while the red and green buttons of the right handle bar are located in the lower right of the **HOME** menu display.



Left Handle Bar



Right Handle Bar

LIGHTING

The **LIGHTING** menu controls the LED lights located under your handle bar cover. Perfect Stitch includes both a white light and a black light.



Brightness Slider

What It Does

The **Brightness Slider** adjusts the brightness of the white LED lights.

Adjust Brightness

To adjust the brightness of the white LED lights, press the plus and minus buttons.

Pressing and dragging on the slider knob or tapping on the slider track will also adjust the brightness of the white LED lights.

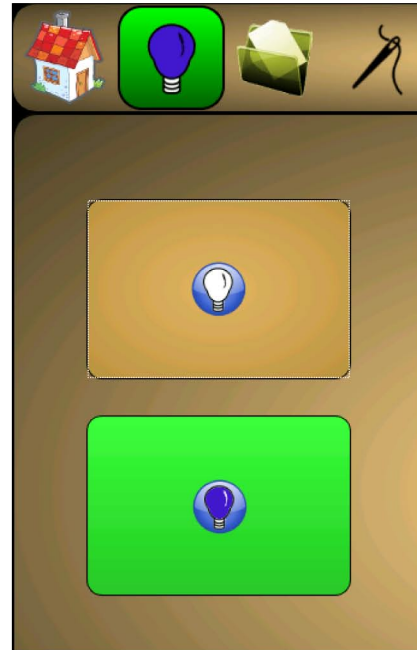
White Light/Black Light

What It Does

To activate or deactivate a light, press the white or black light button.

Active Light

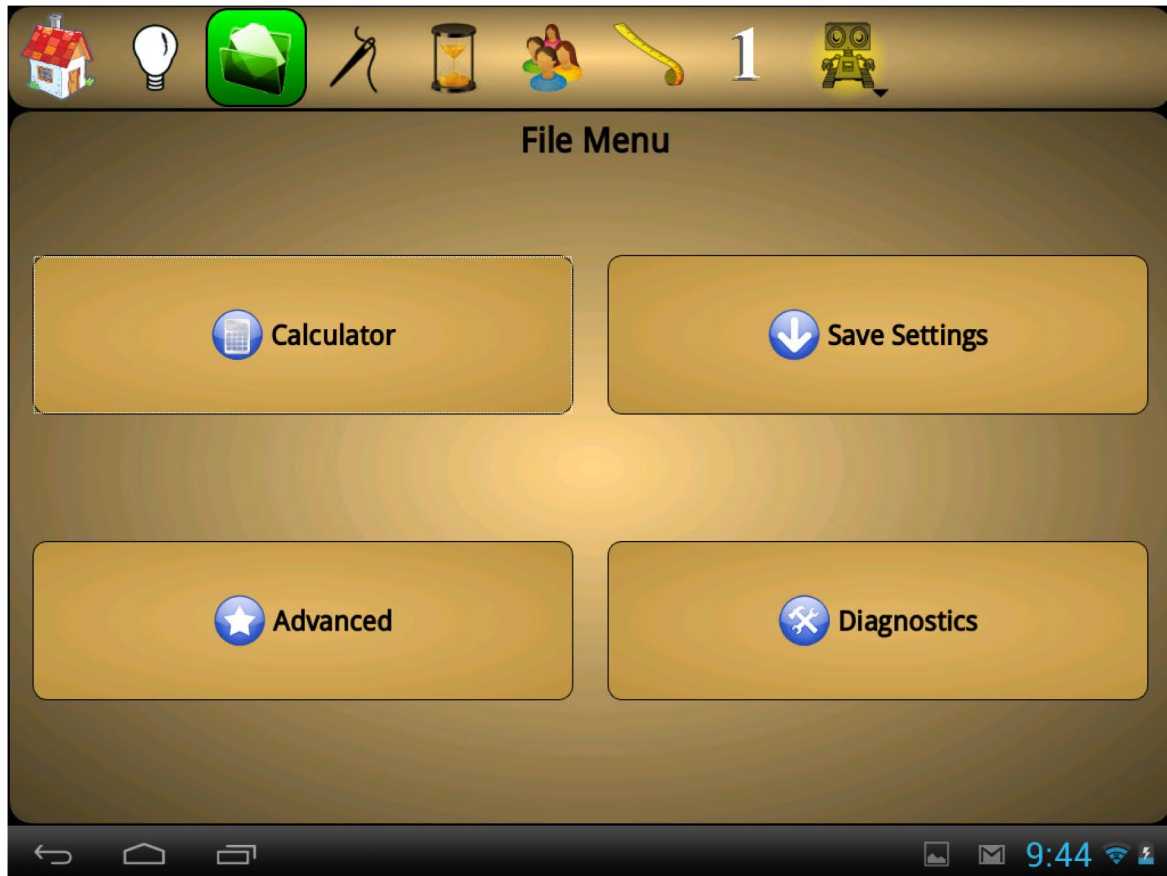
If the light button is green, then that light is activated. Also, the **LIGHTING** icon in the navigation menu changes to indicate which light is active.



Right Handle Bar

FILE MENU

The **FILE** menu contains **Calculator**, **Save Settings**, **Advanced**, and **Diagnostics**.



Calculator

What It Does

Calculator can help you perform basic calculations. Any numbers in the number field will remain even after the calculator is closed.

Calculator Memory

The calculator is able to store a number in the calculator memory for later use. Below is an explanation of the memory keys.

MC – Memory Clear. Clears out any number in the memory to be zero.

MR – Memory Recall. Recalls the number in memory as if you had keyed the number in.

MS – Memory Store. Stores the number in the number field in the calculator memory.

M+ – Memory Add. Adds the current number in the number field to the number in memory. Then, this sum becomes the new number in memory.

Save Settings

What It Does

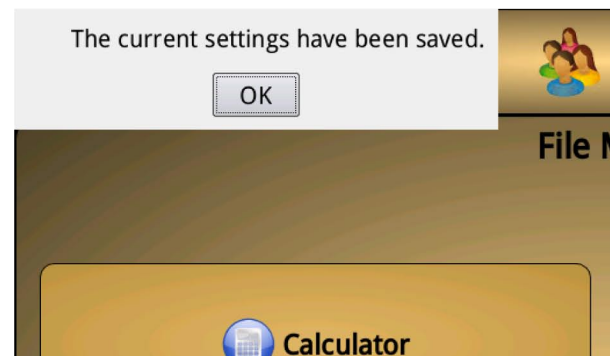
Profile and machine settings are automatically saved every five minutes.

Save Settings saves all of the Perfect Stitch settings that are part of the quilter profile as well as global settings, such as the counter totals and the currently open menu. This is helpful if you have made changes to the settings but need to turn off your machine right away.

Save Your Settings

Press the **Save Settings** button.

After pressing **Save Settings**, a window will appear confirming that your current settings have been saved.



Save Settings

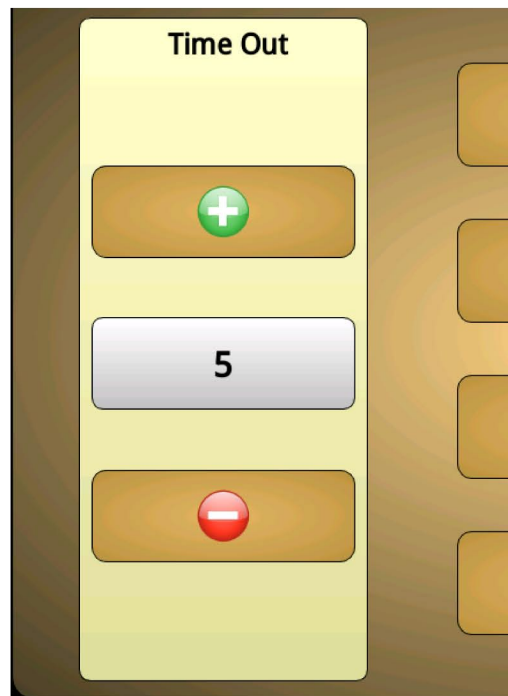
What It Does

The **Advanced** button leads you to a second level menu. The options in this menu are system related, and won't be accessed often.

Timeout

Timeout allows you to customize how many seconds Perfect Stitch will remain active without user input before becoming inactive.

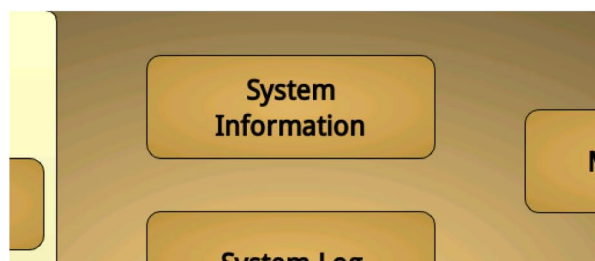
Perfect Stitch will not timeout if the encoders sense any movement. If Perfect Stitch is not timing out, make sure that nothing is causing the encoders to sense movement.



Time Out

System Information

The **System Information** button displays information about your Perfect Stitch software. There are three layers of information: the Quilt EZ screen, the Qt Screen, and the License Information screen. These screens contain information about which version of software, robotics, and quilting machine you are currently using, as well as some licensing information.



System Information

System Log

The **System Log** button displays a record of any errors that have occurred. When troubleshooting Perfect Stitch, you may be asked to provide information from the system log.

The system log contains the **Reset, Save,** and **Exit** buttons.



System Log

Reset

The **Reset** button temporarily clears all of the recorded actions from your system log. The system log will be restored upon pressing the **Exit** button.

Save

The **Save** button will save the contents of the system log to any currently inserted, compatible USB stick. Once the system log is saved, the system log contents are deleted from the tablet.

Exit

The **Exit** button returns you to the previous menu.

Update System

Update System is used to update your Perfect Stitch, which can include the stitching, tablet, and robotics systems. Pressing the **Update System** button while an update-loaded USB is inserted will lead you to an update menu.

Update Machine

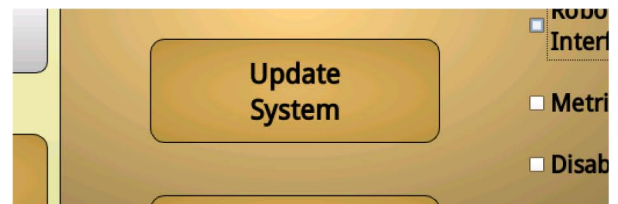
Update Machine is used to only update the firmware of the stitching system. Pressing the **Update Machine** button while an update-loaded USB stick is inserted will lead you to an update menu.

Maintenance

The **Maintenance** button displays a reminder of when to next oil your machine. The **Maintenance** button records the total time your machine has been operating since it's last lubrication.

Reset

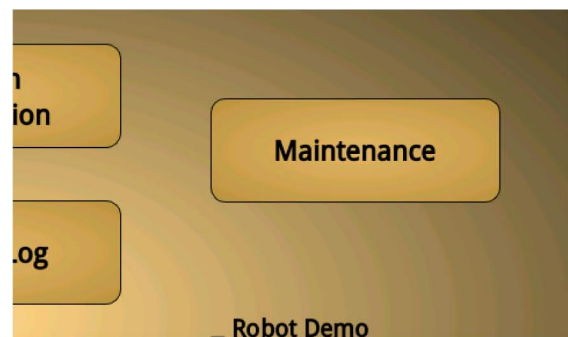
If you service your machine before the end of the eight-hour countdown, you can reset the maintenance countdown by pressing the **Reset** button.



Update System



Update Machine



Maintenance

If you do not service your machine before the end of the 8 hour countdown, a maintenance reminder will display on the screen.

Robot Demo Interface

Robot Demo Interface allows access to the robotics user interface. The features of the robotics interface can be explored without causing your machine to react by stitching.

The demo is used mostly by dealers as a way to explain the features of the robotics, and should never need to be engaged.

Metric Units

If Perfect Stitch is set to metric units, the relation of stitches to units of measurement is inverted. In other words, it shows you the number of millimeters per stitch, not the number of stitches per millimeter. Also, measurements will be displayed in metric units.

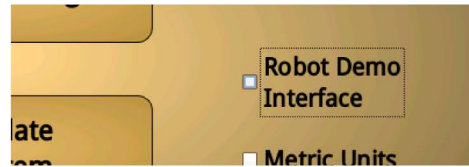
To enable metric units, tap on **Metric Units**.

Disable Robot Port

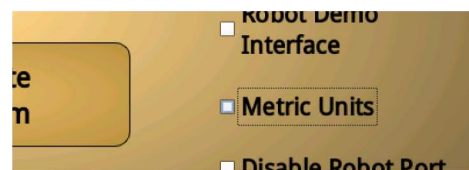
Disable Robot Port allows you to disable any robotics connected to your quilting machine. This is most often used to troubleshoot machine service issues and will not commonly be engaged.

Disable Rear Port

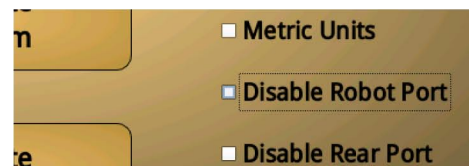
Disable Rear Port allows you to disable the rear port of your quilting machine. This is most often used to troubleshoot machine service issues and will not commonly be engaged.



Robot Demo Interface



Metric Units



Disable Robot Port



Disable Robot Port

What It Does

Diagnosics contains tools to determine if your quilting machine is operating optimally. These tools are the **Motor Index**, **Motor Encoder**, **Motor Settings**, **Temperature**, **Top Encoder**, **Bottom Encoder**, **Handle Bar Buttons**, **Needle Up/Down**, and the **Jog Dial**.

Motor Index

The **Motor Index** measures the number of needle ups and tracks whether the needle is up or down.

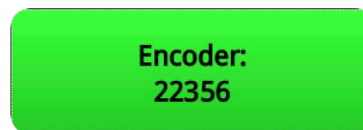
When the **Motor Index** button is pressed, it displays the total number of needle ups recorded on the index sensor board since the machine was last turned on.



Motor Index

Motor Encoder

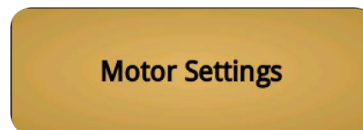
The **Motor Encoder** measures your machine speed. It is used to test that the motor is operating at normal levels. The measurements in the Motor Encoder reset to zero every time you display them by pressing the **Motor Encoder** button.



Motor Encoder

Motor Settings

Motor Settings allows you to adjust performance settings of the motor. If improperly changed, these settings can damage your machine. Because of this, these settings are password protected. **ONLY ADJUST THE MOTOR SETTINGS UNDER THE DIRECTION OF TRAINED SUPPORT PERSONNEL.**



Motor Settings

Temperature

The **Temperature** button displays the current operating temperature of your motor. Safe levels of operation are under 100 degrees Celsius. If your motor exceeds safe levels, an error message will display on the tablet screen.

If your machine temperature displays above 100 degrees Celsius, contact your local dealer for support.

Top Encoder

The **Top Encoder** button displays the Y coordinates of the stitching system. The number displayed should change when you push the handle bars away from or towards yourself.

Bottom Encoder

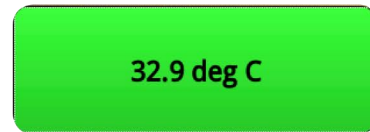
The **Bottom Encoder** button displays the X coordinate of the stitching system. The number displayed should change when you push the handle bars to the left or to the right.

Handle Bar Buttons

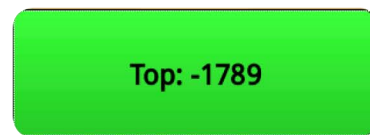
The **Handle Bar Buttons** can be tested from Diagnostics. To test the buttons, you must press the buttons on the handle bar. The handle bar buttons on the tablet screen are not functional.

Pressing a handle bar button while in Diagnostics will engage that button's programmed function. When a handle bar button is pressed, the corresponding button in Diagnostics will turn green to indicate that it is working properly (see the red button in the screenshots at right).

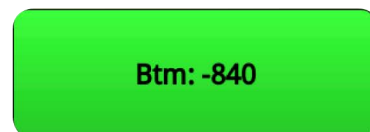
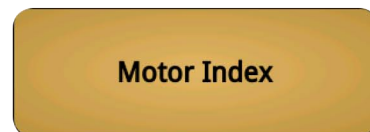
Unlike any other menu, pressing a handle bar button while in Diagnostics will not



Temperature



Top Encoder



Bottom Encoder



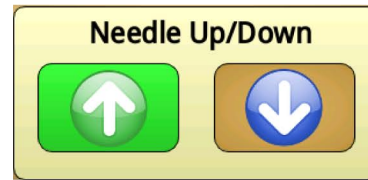
Handle Bar Buttons

return you to the **HOME** menu.

Needle Up/Down

The **Needle Up/Down** area contains buttons to test the needle up and needle down function of your stitching system.

Press the up and down buttons to raise or lower the position of your needle.



Needle Up/Down

Jog Dial

The dial button gives you access to the **Jog Machine** area.

From time to time, your machine may become bogged down to the point where the needle is stuck and refuses to move.

If this happens, it may be necessary to “jog” the machine.

Jog Your Machine

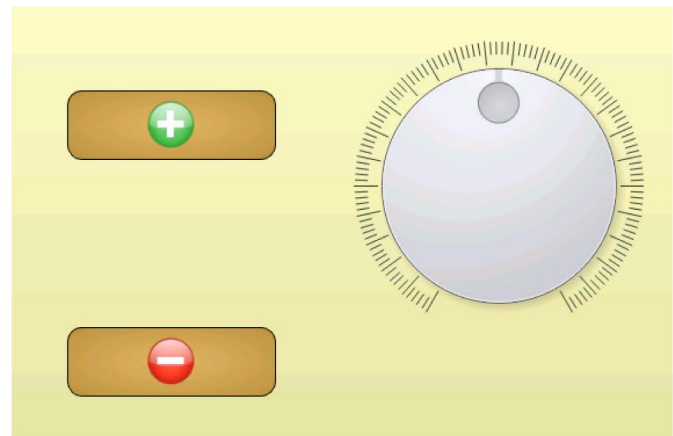
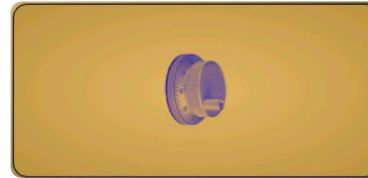
To jog your machine, select one of the two jog settings. After a setting is selected, use the plus or minus buttons or touch and drag the dial. The two jog settings are **Position Mode** and **Power Mode**.

Position Mode

Position Mode will apply as much power as it needs to move the needle to the pre-determined up/down positions. Negative values run the motor in reverse, while positive values run the motor as normal.

Power Mode

Power mode will send power directly to the motor of your stitching system. This mode is recommended to “jog” your machine.



Jog Dial



Position Mode



Power Mode

SEWING PARAMETERS

The **SEWING PARAMETERS** menu contains **Stop Mode** and **Tie-Offs**. These are used to set what actions your machine will take whenever it stops stitching and how many stitches to use for a tie-off.



Stop Mode

What It Does

Stop Mode contains three buttons: **Ndl Pos**, **Quick**, and **Tie Off**. Only one button can be active at a time.

Ndl Pos (Needle Position)

When the **Ndl Pos** button is selected, the stopped needle will return to the needle position of the currently active quilter profile. (For more on quilter profiles, see page 30.)



Needle Position

Quick

When the **Quick** button is selected, whenever a needle is stopped using a handlebar button, it will stop immediately, regardless of its current needle position.



Quick

Tie Off

When the **Tie Off** button is selected, the stopped needle will tie off the number of times specified in the **Tie-Offs** area.



Tie Off

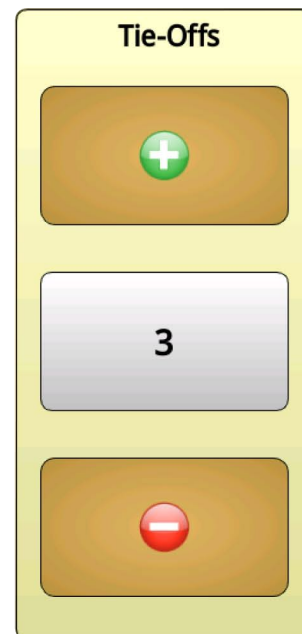
Tie Offs

What It Does

The **Tie-Offs** area sets how many stitches your machine will stitch to tie-off the thread.

Adjust Tie-Offs

Press the plus or minus buttons to add or remove stitches to your tie off settings.



Adjust Tie-Offs

COUNTERS

The Counters menu contains the **Run Time** and **Stitch Counter** areas.



Run Time

What It Does

Runtime is measured between pressing the start button and when Perfect Stitch times out. Turning the machine off and on will not reset the total recorded run time.

Reset

To reset the recorded run time to 0, press the **Reset** button.



Needle Position

Stitch Counter

What It Does

Stitch Counter displays the number of stitches the machine has completed. Turning the machine off and on will not reset the recorded number of stitches.

Reset

To reset the recorded stitches to 0, press the **Reset** button.



Needle Position

Stitching Mode Settings

What It Does

These are the settings for the currently selected quilter profile. Changes made from the profile settings affect their corresponding **HOME** menu settings, and vice versa. To change a setting, tap on its number field and use the plus and minus buttons above or below it.

Prec SPI:

This adjusts the stitches per inch setting for Precision Mode. (For more information about Precision Mode, see page 13.)



Precision Mode

Baste SPI:

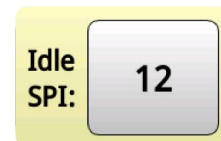
This adjusts the stitches per inch setting for Baste Mode. (For more information about Baste Mode, see page 14.)



Baste Mode

Idle SPI:

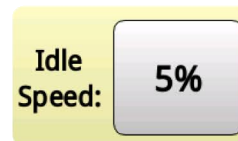
This adjusts the stitches per inch setting for Idle Mode. (For more information about Idle Mode, see page 13.)



Idle Mode

Idle Speed:

This adjusts the Idle speed setting for Idle Mode. (For more information about Idle Mode, see page 13.)



Idle Speed

Manual Speed:

This adjusts the stitching speed setting for Manual Mode. (For more information about Manual Mode, see page 13.)

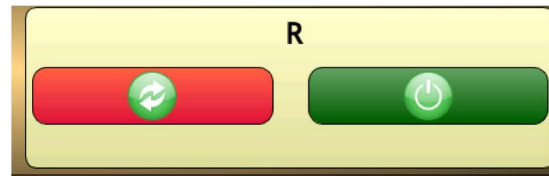
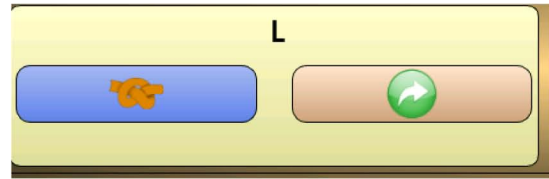


Manual Speed

Handle Bar Buttons

What It Does

Handle Bar Buttons can be uniquely configured for each quilter profile. The blue and white buttons located in the **L** area program the left handle bar buttons, while the red and green buttons located in the **R** area program the right handle bar buttons.





Handle Bar Functions

To program a button, tap on it. To replace the current function, Select a function for the handle bar button.

The table on the next page includes each function icon, it's name, and a description of what the function does.

Handle Bar Button Functions

Icon	Function	Description
	Full Stitch	Complete one full stitch (needle up and down)
	Half Stitch	Complete one half of a stitch (needle up or down)
	Start	Activate current Stitching Mode
	Precision	Switch to Precision Mode
	Idle	Switch to Idle Mode
	Tie Off	Tie Off the thread
	Baste	Switch to Baste Mode
	Manual	Switch to Manual Mode
	None	No function assigned to button

MEASURE

The Measure Menu allows you to make quilt measurements using Perfect Stitch.



Set Start/Stop

What It Does

Set Start/Stop allows you to take measurements between two points on your quilt using hardware built into Perfect Stitch.

Take a Measurement

To begin a measurement, position the needle directly over the start of where you would like to measure. Once the needle is positioned, press the set start button.

Perfect Stitch will now record the distance between wherever you move the needle and the start point. This distance will

display on the screen as you move the needle.

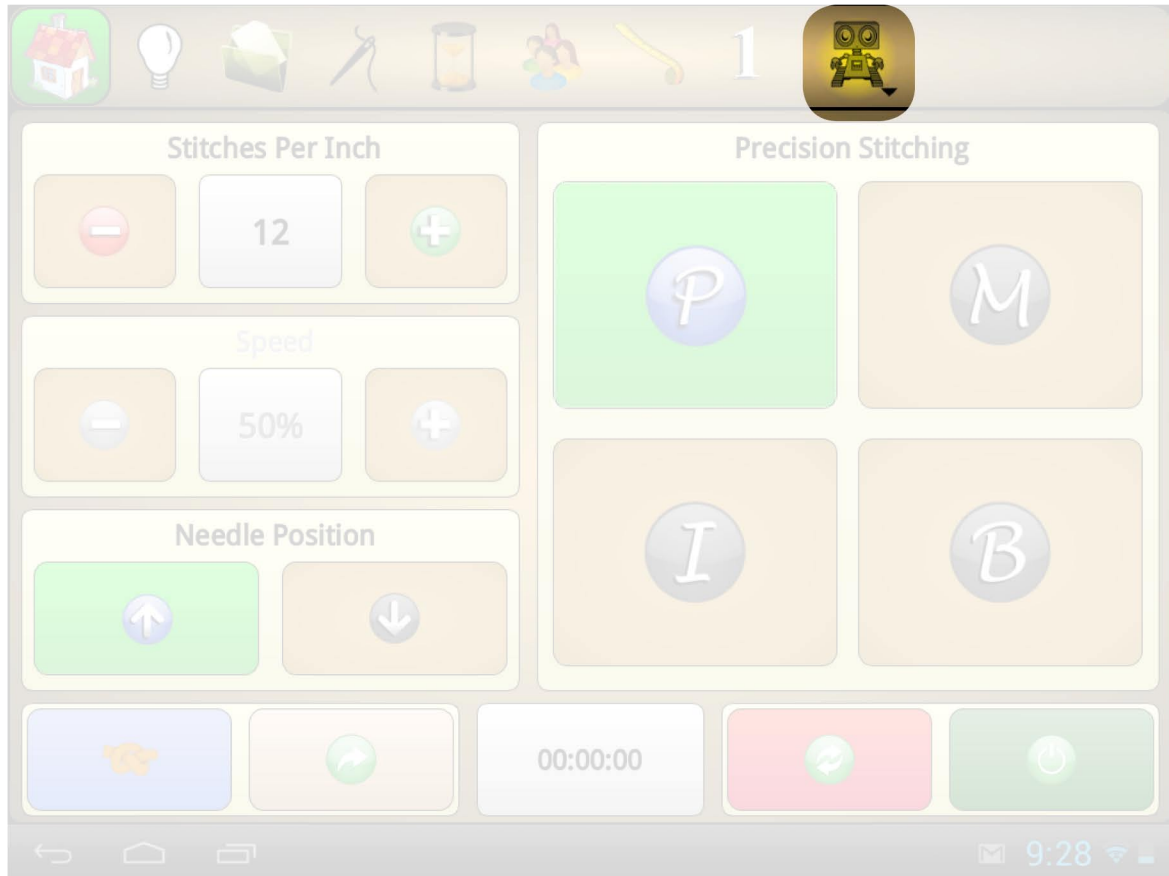
Stop Measuring

To stop measuring, press the **Stop** button. Note that the last measurements taken will remain displayed until a new measurement is taken.



ROBOTICS

The **ROBOTICS** Menu is a link to the robotic quilting system user interface. Tap the icon to navigate to the robotic quilting system user interface.



Robotics //////////////////////////////////////

No Robotics Connected

If your machine is not currently connected to a robotic quilting system, Then the icon will be colored grey, indicating it is inactive.



