# Interaction and Style Guide

## Contents:

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revision History</td>
<td>2</td>
</tr>
<tr>
<td>Overview</td>
<td>3</td>
</tr>
<tr>
<td>Screen Layout (Templates)</td>
<td>4</td>
</tr>
<tr>
<td>Screen Examples</td>
<td>6</td>
</tr>
<tr>
<td>Panel Resolution / Orientation</td>
<td>11</td>
</tr>
<tr>
<td>Global Navigation</td>
<td>12</td>
</tr>
<tr>
<td>Global Organization</td>
<td>15</td>
</tr>
<tr>
<td>System Status &amp; Colors</td>
<td>16</td>
</tr>
<tr>
<td>Control Elements Design</td>
<td>17</td>
</tr>
<tr>
<td>UI Element Details</td>
<td>20</td>
</tr>
<tr>
<td>System Status</td>
<td>31</td>
</tr>
<tr>
<td>Icon Design</td>
<td>32</td>
</tr>
<tr>
<td>Language String Behavior</td>
<td>33</td>
</tr>
<tr>
<td>Terminology</td>
<td>34</td>
</tr>
<tr>
<td>Resources</td>
<td>34</td>
</tr>
<tr>
<td>Appendix</td>
<td>35</td>
</tr>
</tbody>
</table>
## Revision History:

<table>
<thead>
<tr>
<th>DATE / Rev.</th>
<th>Edited by</th>
<th>Comment (detailed description of changes made)</th>
</tr>
</thead>
<tbody>
<tr>
<td>6-Aug-2015</td>
<td>U.S. Software Support team</td>
<td>Initial Issue</td>
</tr>
</tbody>
</table>
Next Generation Systems Touch Screen HMI

Interaction and Style Guide

This guide provides a high-level overview of the look and basic behaviors of components (controls and indicators) used in the next-generation melter control, the Spectra 30 pattern controller, the new middle-tier pattern controller, and other adhesive application controls. The components and their behaviors described in this guide are meant to be used in the design of touch screen Graphical User Interfaces (GUIs) up to 7 inches (measured diagonally) in size.

- This guide is not meant to replace project-specific Human-Machine Interface (HMI) storyboards or detailed interaction specifications, the latter of which includes use case documentation.

- The arrangement of components on screens presented here is generally representative of how components should be arranged. However, different size screens and different applications may require more flexible component placement.

- The behaviors presented here (especially response-time related) are to be considered the minimum acceptable in order to create the intended positive user experience.

- The components, look, and behavior presented here reflect the harmonized interaction design created to support the Spectra 30 Pattern Controller and Next Generation Adhesive Systems.

Motivation:

The user interfaces of today’s industrial machines are highly manufacturer-specific. This fact, along with the complex functionality provided by the newest machines, significantly increases the training effort required for the end customer. From a training perspective, a minimum degree of variance between Nordson’s different user interfaces is highly desirable. Ease of use, graphic familiarity, improved operability, navigation familiarity, minimal training for end users and technicians, and reduction of operator errors are the goals for the use of this document. An additional benefit is reusability. Future projects will require less development time because many graphics and templates are already available.

Notes:

- At the present time, all final graphics supplied to U.S. software development team members will be raster (bitmaps). All other graphics will be vector and will be provided at resolution that allows resizing without distortion.

- Unless otherwise indicated in this guide, the proportions/aspect ratio of all controls will not be changed.

- For most new product development efforts, field usability testing with end-users can be conducted to ensure the interaction design achieves the desired usability and meets market expectations. If usability and/or expectations are not achieved, the interaction design(s) will need to be revised.
1. Screen Layout (Guideline Templates)

480 x 800 Portrait Template

- Status area (top bar): 9% total height
- Body area: 82% total height
- Navigation area (bottom bar): 9% total height

320 x 240 Landscape Template

- Status area (top bar): 12% total height
- Body area: 79% total height
- Navigation area (bottom bar): 9% total height
Screen Layout (Guideline Templates)

800 x 480 Landscape Template

1024 x 600 Landscape Template

Status area (top bar)
13% total height

Body area
80% total height

Navigation area (bottom bar)
7% total height
Screen Layout Examples: Next-Gen Melter Control

1. System Status (text plus background color)
2. System/Diagnostic Status
3. Security Lock
4. Main Menu
5. Cancel
6. Undo
7. Help
8. Screenshot
9. Home

NOTE: This screen and all that follow are just representative examples of typical screen content and layout. To get a better feel for overall User Experience (and product GUI complexity), please refer to the complete screen maps linked below:

AltaBlue Touch – Sharepoint: here | External: here
M2012 – Sharepoint: here | External: here
AltaPail II – Sharepoint: here | External: here
Concert Series – Sharepoint: here | External: here
Freedom – Sharepoint: here | External: here
Spectra 30 – Sharepoint: here | External: here

NOTE: The bottom navigation bar is shown fully populated for reference only. On the home page, the cancel, undo, and home buttons would not be present.
Screen Layout Examples: Spectra 50 Pattern Controller

- 480 x 800 dimensions
- Global Top Bar Standardization
- Global Bottom Bar Standardization
- Background Color Status Indicator

1. System Status
2. Adhesive Status
3. Inspection & Eject Status
4. Diagnostic Status
5. Line Status
6. Main Menu
7. Back
8. Screenshot
9. Forward/Next
10. Help
11. Home

NOTE: The bottom navigation bar is shown fully populated for reference only. On the home page, the back, forward/next, and home buttons would not be present.
Screen Layout Examples: Spectra 30 Pattern Controller

- 320 x 240 dimensions
- Global Top Bar Standardization
- Global Bottom Bar Standardization
- Background Color Status Indicator

1. Main Menu
2. Glue Status
3. Diagnostic Status
4. Recipe Selector
5. Line Status
6. Applicator Status / Number
7. Photocell Status / Number
8. Pattern Display
9. Screen Number
### Screen Layout Examples: Spectra 30 (continued)

<table>
<thead>
<tr>
<th>Screen Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recipe Selection Screen</td>
<td>NOTE: Individual bead pattern representations are dynamically built and stored with individual recipe files.</td>
</tr>
<tr>
<td>Pattern Screen</td>
<td></td>
</tr>
<tr>
<td>Pressure Screen</td>
<td></td>
</tr>
<tr>
<td>Keypad Screen</td>
<td></td>
</tr>
</tbody>
</table>
Screen Layout Examples: Next-Gen AltaBlue Touch

Main Screen (HOME)
- 1024 x 600 dimensions
- Global Top Bar Standardization
- Background Color Status Indicator

NOTE: Bottom navigation bar is removed from home page to allow for increased zone controls.

System-level Settings (typically all of the one-time set-up values)
- 1024 x 600 dimensions
- Global Top Bar Standardization
- Global Bottom Bar Standardization
- Background Color Status Indicator

Master Controls
- 1024 x 600 dimensions
- Global Top Bar Standardization
- Global Bottom Bar Standardization
- Background Color Status Indicator
## 2. Panel Resolution / Orientation

This initial version of the style guide has been built to primarily support HMI-GUI development for the following touch screen panel sizes:

- Small – Spectra 30 *(320x480)*, medium – Freedom, Concert, AltaPail, AltaDrum, and Spectra 50 *(480x800)*, large – LogiComm *(1024x768)* and Next-Gen AltaBlue Touch *(1024x600)*
- Portrait versus landscape will depend primarily on shape of product and electrical cabinet. Next-Gen Melter screens will more than likely be portrait orientation to allow for ease of incorporation of pattern control screens.

If new product development efforts consider touch screen sizes or aspect ratios significantly different than those listed above, then the entire entity and icon libraries should be evaluated for an aesthetically pleasing fit into the new screen(s).

Future consideration will be given to handheld devices (both phone and tablet PCs) once further research is conducted regarding remote control of machine interfaces.
## 3. Global Navigation

### Types of Screens

Depending on screen size/orientation, use graphics (or graphic and text), rather than text, for general navigation whenever practical.

**Notes:**
- This section does not discuss status icons, as they are product specific.
- All screens should display the camera icon but only when the system detects a USB.
- **Done** navigates user back to previous screen.
- **Home** navigates users to Home screen regardless of screen type.

Regardless of screen size or orientation, most User Interfaces (UIs) should contain the following screens:

<table>
<thead>
<tr>
<th>Screen Type</th>
<th>Description</th>
<th>Can Navigate to Screen type:</th>
<th>Navigation buttons</th>
</tr>
</thead>
<tbody>
<tr>
<td>Splash Screen</td>
<td>Upon startup, automatically appears and stays visible until software is loaded, then automatically disappears. This screen should contain product identification, Nordson logo, and software version.</td>
<td>Task</td>
<td>Typically none, but you can have a Calibrate or License button.</td>
</tr>
<tr>
<td>Screen Saver</td>
<td>Appears after no user interaction with the touch screen after 5 (default) minutes. Typically displays system status/state. Upon touch, if security is disabled, the home or last screen appears. Otherwise, a numeric Enter Password pad appears.</td>
<td>None</td>
<td>None</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Screen Type</th>
<th>A Control Touch from...</th>
<th>Can Navigate to...</th>
<th>Navigation buttons</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary Screen</td>
<td>The Home screen that does not take you to a Task Screen. For example, the Master Controls screen, Settings Screen, System Screen, displaying other controls for related (grouped) features/options. Note: Can include Enable/Disable controls</td>
<td>Secondary Wizard</td>
<td>Done Home</td>
</tr>
<tr>
<td>Secondary Screen</td>
<td>A Primary and/or another Secondary screen, displaying other controls for related (grouped) features/options. Note: Can include Enable/Disable controls</td>
<td>Another Secondary Task Wizard</td>
<td>Done Cancel Home</td>
</tr>
<tr>
<td>Task Screen</td>
<td>A Primary or Secondary screen to accomplish a single task.</td>
<td>Graph Wizard Numeric Alphanumeric Info</td>
<td>Done Cancel Home</td>
</tr>
<tr>
<td>Screen Type</td>
<td>A Control Touch from...</td>
<td>Can Navigate to...</td>
<td>Navigation buttons</td>
</tr>
<tr>
<td>-------------</td>
<td>-------------------------</td>
<td>--------------------</td>
<td>--------------------</td>
</tr>
<tr>
<td>Graph</td>
<td>One of the following screens: Primary, Secondary, or Task</td>
<td>None</td>
<td>Done, Cancel, Home</td>
</tr>
<tr>
<td>Wizard</td>
<td>One of the following screens; Primary, Secondary, or Task</td>
<td>None</td>
<td>First screen: Next/Exit, Last screen: Previous/Done, All others: Next/Previous/Exit</td>
</tr>
<tr>
<td>Numeric</td>
<td>One of the following screens: Task, Wizard, or Graph</td>
<td>None</td>
<td>Done, Cancel</td>
</tr>
<tr>
<td>Alpha-numeric</td>
<td>One of the following screens: Task, Wizard, or Graph</td>
<td>None</td>
<td>Done, Cancel</td>
</tr>
<tr>
<td>Info</td>
<td>One of the following screens: Primary, Secondary, or Task</td>
<td>None</td>
<td>Done, Home</td>
</tr>
<tr>
<td>Help</td>
<td>One of the following screens: Primary, Secondary, or Task</td>
<td>None</td>
<td>Done</td>
</tr>
</tbody>
</table>

**Wizard Guidelines**

Use a wizard when:
- Users want to accomplish a goal that has many steps.
- Users lack the basic knowledge needed to accomplish the entire procedure.
- Users must complete steps in a specific sequence.
- The first wizard screen should provide a brief explanation or purpose of the wizard. Navigation buttons (graphic and/or graphic with text) should include Next and Cancel.
- The last wizard screen should display a summary of the user-defined settings. Navigation buttons (graphic and/or graphic with text) should include Back and Done.
- The wizard screens after the first screen and before the last screen should have the following navigation buttons: (graphic and/or graphic with text) Next, Back and Exit.
- The user must complete the wizard, or touch Exit to navigate to or access any other non-wizard screen.

**Text, Graphic or Both on Navigation Buttons**

- Depending on screen size/orientation, use text and/or graphic and text for those controls that were the tasks would be typically done by a simple *operator*.
- Depending on screen size/orientation, use a graphic for those controls that were the tasks would be typically done by a simple *technician* or a *Nordson field representative*.
- For screens

**Notes:**
- The end-user documentation should detail the default, min/max values and resolution as needed.
- Depending on screen size/orientation, display error trapping message, indicating invalid enter and, if possible, display default and min/max values.
- The user interface should allow for invalid entries.

**Finger Gestures**

Visual indications are not displayed in the user interface. The only exception may be for swiping. Otherwise, the specific gestures should be properly documented in the end-user documentation.

**Notes:**
- Tap or touch: Used for navigation and user selection, such as radio button, check box and and/or to cause a drop-down menu list to appear
- Touch-and-hold: (0.5 second) to access advanced options or features
- Touch, hold, and swipe (left/right): Used to access or view additional information and/or to access additional feature options.
4. Global Organization

General Grouping of functions:
Settings: operational adjustments more often changed (examples: temperature, standby)
System: system-wide adjustment usually set once and not changed (examples: units, date/time, language)
Tools: service or mechanism to gain information or fix/reset machine (examples: reset, diagnostics)

NOTE: Refer to the appendix for two sample GUI structures.

Procedure Steps and Menu Depth
• Tasks should be logically grouped.
• Once you have identified those features/options that will be frequently used, they should be placed in the interface requiring none or minimal “touches” to accomplish the task at hand.
• Depending on screen size/orientation, use text and/or graphic-text combinations for those controls where the tasks would be typically done by a day-to-day operator.
• Depending on screen size/orientation, use graphics alone for those controls where the tasks would be typically done by a technician or a Nordson field representative.

Screen numbering should be implemented whenever possible to assist with product support reference. Numbering should be numeric only with no more than one decimal. Preferred method of numbering groups similar content screens into same number family (see Spectra 30 screen map for example).

Popup screens should be used sparingly, primarily when entering text or a value, or when displaying an alert/fault condition that requires immediate user-intervention.

Information screens are necessary for product support and version reference.

Factors to be defined before determining organization (menu structure / navigation) of screens:
1) Screen Size  2) Screen Orientation  3) Number of Screens  4) Frequency of use per screen

Frequently used functions should be placed on or near the home screen so they are more readily available.
## 5. System Status & Colors

### Pattern Control System-Status Colors

<table>
<thead>
<tr>
<th>System State</th>
<th>Background Color</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Run</td>
<td>Green</td>
<td>Making product, all OK</td>
</tr>
<tr>
<td>Alert</td>
<td>Yellow</td>
<td>Making product or ready to, something wrong, defective product</td>
</tr>
<tr>
<td>Idle</td>
<td>Blue</td>
<td>Ready to make product, all OK, waiting for run condition to be satisfied ...</td>
</tr>
<tr>
<td>Fault</td>
<td>Red</td>
<td>Not able to make product</td>
</tr>
<tr>
<td>Stop (S50)</td>
<td>Red/White Hash</td>
<td>Machine or feed stop caused by condition other than a fault</td>
</tr>
<tr>
<td>Disabled</td>
<td>Green Hash</td>
<td>Patterns Off (pattern only) Inspection off (Insp only) Both off (combi)</td>
</tr>
<tr>
<td>Offline</td>
<td>Grey</td>
<td>Commissioning not completed (out of box) Back-up/restore in progress, Software upgrade</td>
</tr>
</tbody>
</table>

### Melter System-Status Colors

<table>
<thead>
<tr>
<th>System State</th>
<th>Background Color</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Run</td>
<td>Green</td>
<td>Melter Ready - all OK</td>
</tr>
<tr>
<td>Alert</td>
<td>Yellow</td>
<td>Still functioning but something wrong (temp out-of-range, pump or comm. error, etc.)</td>
</tr>
<tr>
<td>Standby</td>
<td>Blue</td>
<td>Individual heated zones or entire system is in a reduced temp state</td>
</tr>
<tr>
<td>Fault</td>
<td>Red</td>
<td>Not able to make product</td>
</tr>
<tr>
<td>Ready Delay</td>
<td>Light Blue</td>
<td>System is at temperature, but production is halted due to user-set timer</td>
</tr>
<tr>
<td>System Partially Ready</td>
<td>Light Green</td>
<td>Heat Ready and Fill Off, Fill Ready and Heating, etc.</td>
</tr>
<tr>
<td>Component or System is Off</td>
<td>Grey</td>
<td>Individual heated zone, or pump, has been disabled</td>
</tr>
</tbody>
</table>

There are no published CE/ANSI/ISO standards regarding the use of colors within GUIs/HMIs. However, careful consideration was given to the guidance found in BS EN 60204 (Safety of Machinery – Electrical Equipment of Machines – Section 10: Operator Interfaces) – Sharepoint file can be found [here](#).
6. Control Elements Design

**Icon Library**: Nordson internal website containing hundreds of graphic images available for download. These icons and other user interface elements are scalable in vector based applications such as Adobe Illustrator. No distortion of icons or graphics should be applied.

Usage guidelines for each type of control:
Components are defined as any screen element aside from text or background. Examples are buttons and icons. The appropriate type of component needs to be used to simplify the user interface.

Input element types:
- **Radio button selector**: Radio buttons should be used to emphasize all available choices (e.g. to clarify the level of abstraction or precision), especially if the default choice is not very informative (e.g. “standard menu”). All radio button selectors should be displayed close together, have a black border and blue interior. The selected item has a white center. Radio selections should be placed on the screen thoughtfully so the user easily understands which groups correspond with the others.
- **Dropdown selector**: A dropdown list should be used if there are several options and users know the choices beforehand. A big factor will be screen real estate, you can often save some space with a dropdown selector compared to radio buttons. The button should be blue with a white down arrow in the center. Once tapped, selections are displayed in a vertical list. A popup screen can also be displayed with a cancel (X) and submit (check) button.
- **Text/numeric input**: Tapping this element causes a popup screen to display with a cancel (X) and submit (check) button.
- **Checkbox selector**: Tapping turns this element checked or unchecked.
- **Up & down buttons**: Used for either scrolling a list or to increase/decrease an input value.

User interface qualities:
- **Deference**: The UI helps people understand and interact with the content, but does not compete with it.
- **Clarity**: Text is legible, icons are precise and lucid, and a sharpened focus on functionality motivates the design.
- **Depth**: Visual layers and realistic motion impart vitality and
heighten people’s delight and understanding.

The spacing between controls is a significant factor in making controls easily touchable. Targeting is quicker but less precise when using a finger as the pointing device, resulting in users more often tapping outside their intended target. When interactive controls are placed very close together but are not actually touching, users may click on inactive space between the controls. Because clicking inactive space has no result or visual feedback, users are often uncertain what went wrong.

Minimum margin spacing: 8px/2mm
Minimum spacing between elements: 8px (2mm)
Recommended spacing between elements: 15px (4mm)
Recommended touch target size: 26px – 53px (7mm – 14mm)
Maximum touch target size: 78px by 78px (20mm)
Minimum touch target size: 26px by 26px (7mm)
This is an industry standard. Do not use touch target elements smaller than 40x40 unless absolutely necessary. Spectra 30’s small screen size made elements as small as 30x21 necessary such as the home navigation icon. Maximum target size can be extended if extra space is needed for text.

The average adult fingertip size is 10-14mm (38-53px).

Make controls within groups easier to differentiate by using more than the recommended vertical spacing between controls. For example, radio buttons at 19 pixels high are shorter than the minimum recommended size of 26 pixels. When you have vertical space available, you can achieve roughly the same effect as the recommended sizing by adding an additional 4 pixels of spacing to the standard 7 pixels.

Shadowing:
Shadowing should be used only on buttons (not keypads) and radio elements only.
Bottom right direction: 129 degrees   Opacity: 60%
Distance: 5px   Size: 5px
Translucence/Opaqueness: Some elements can be made translucent to show inactivity or unavailability.

Numeric entry behaviors: Up and down arrows gray out upon reaching max and min values. Undo will reset to previously selected value.

Clear button: Clear to nothing entered (cleared state). If user presses OK in a cleared state, then no action (same as cancel). If up or down pressed in cleared state then take value at entry and increment or decrement the value.

Help Details:
2 different help type options:
1) Point of use: tapping the help (?) icon causes information icons to appear on the current screen in an upper layer which allow the user to read additional information regarding the subject matter they select. Use this type when small amounts of help information should be displayed for numerous elements without navigating away from the current screen.
2) Help screen: central library of all help topics searchable by user. This navigates away from the current screen.

Lock functionality: restricts core functionality and allows for safety considerations.
User Interface Element Details

Navigation Button with Graphics

**Use:** Navigate to another screen  
**Size:** Variable  
**States:** Available and Unavailable

<table>
<thead>
<tr>
<th>Example</th>
<th>Navigate to</th>
<th>Used…</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Settings</td>
<td>AltaTouch, SP30</td>
</tr>
<tr>
<td>2</td>
<td>Tools</td>
<td>AltaTouch, SP30</td>
</tr>
<tr>
<td>3</td>
<td>System</td>
<td>AltaTouch, SP30</td>
</tr>
</tbody>
</table>

Action Button

**Use:** Perform an action, but remains on current screen  
**Size:** Variable  
**States:** Available and unavailable

**Text:** Optional  
- **Font color:** White  
- **Location:** Middle, centered  
- **Wrapping:** No

**Graphic:** Optional

<table>
<thead>
<tr>
<th>Example</th>
<th>Action …</th>
<th>Used…</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Save as</td>
<td>AltaTouch/ SP 30</td>
</tr>
<tr>
<td>2</td>
<td>Paste</td>
<td>AltaTouch/ SP 30</td>
</tr>
<tr>
<td>3</td>
<td>Copy</td>
<td>AltaTouch/ SP 30</td>
</tr>
<tr>
<td>4</td>
<td>Reset Counter</td>
<td>Spectra 30</td>
</tr>
<tr>
<td>5</td>
<td>Increase/Decrease value by 1 unit</td>
<td>AltaTouch/ SP 30</td>
</tr>
<tr>
<td>6</td>
<td>Purge</td>
<td>Spectra 30</td>
</tr>
<tr>
<td>7</td>
<td>Insert bead Before/Delete/ Insert bead After</td>
<td>Spectra 30</td>
</tr>
</tbody>
</table>

**Behaviors:**  
- Touch  
- Touch and Hold
### Toggle Button with Text

**Use:** Toggle between two options, such as AM/PM

**Elements:**
- **Text:** Variable
- **Font color:** White
- **Location:** Middle, centered
- **Wrapping:** No

![Toggle Button with Text](ON)

### Navigation Button with Text and Status

**Use:** To navigate to another screen

**States:** Available and unavailable

**Elements:**
- **Button:**
  - **Type:** Button
  - **Color:** Blue
  - **Text:**
    - **1st line:** Variable
      - **Font color:** White
      - **Location:** Top left
      - **Wrapping:** Yes
    - **2nd line:** Optional to indicate status of option or feature.
      - **Font color:** White
      - **Location:** Bottom right
      - **Wrapping:** No

![Navigation Button with Text and Status](Date / Time 07/14/15 2:37 PM)

### Component State/Status Button (Ready/OK)

**Use:**
- View component state and status
- Navigate to component screen

**State:** Available

**Status:** Ready/OK, fault, alert, standby, ready delay, waiting for ready

**Elements:**
- **Condition:** Green: Component operating normally
- **Text:**
  - **1st line:** Default component name, or user defined name
    - **Font color:** Black
    - **Location:** Top left
    - **Wrapping:** No
  - **2nd line:** Actual value (temp, rpm, etc.)
    - **Font color:** Black
    - **Location:** Middle
    - **Wrapping:** No

![Component State/Status Button](Pump 1 45 RPM)

**Note:**
- **Example components:**
  - External Zone
  - Internal Zone
  - Hose
  - Applicator
  - Air Heater
  - Pump
- For pump buttons, a third line of text might be added to indicate operation mode (gear-to-line, pressure control, flow control, manual)
### Component State/Status Button (Alert Condition)

**Use:**
- View component state and status
- Navigate to component or diagnostics screen

**States:** Available, unavailable, disabled

**Status:** Alert

**Elements:**
- **Condition:** Component not working within normal parameters. System continues to operate, but requires attention.

1. **Button:**
   - **Type:** Status/State component button
   - **Color:** Yellow gradient
   - **Icon:** Optional alert icon (shown)

2. **Text:**
   - **1st line:** Default component name, or user defined
   - **2nd Line:** Alert condition or temp
   - **Font color:** Black
   - **Location:** Top left
   - **Wrapping:** No

**Behaviors:** Touch only – Navigate to component or diagnostics screen

**Currently Used For:** Only on the home screen

### Navigation Component State/Status Button (Fault Condition)

**Use:**
- View component state and status
- Navigate to component or diagnostics screen

**States:** Available, unavailable and disabled

**Status:** Fault

**Elements:**
- **Condition:** Component not working within normal parameters. System stops (machine stop).

1. **Button:**
   - **Type:** Status/State component button
   - **Color:** Red gradient
   - **Icon:** Optional fault icon (shown)

2. **Text:**
   - **1st line:** Default component name, or user defined
   - **2nd Line:** Fault condition
   - **Font color:** Black
   - **Location:** Top left
   - **Wrapping:** No
<table>
<thead>
<tr>
<th><strong>Component State/Status Button (Disabled)</strong></th>
<th><strong>Scroll Up/Down Buttons</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Use:</strong> View component state and status</td>
<td><strong>Use:</strong> Move to next or previous screen content</td>
</tr>
<tr>
<td>Access to primary, task and other screens</td>
<td><strong>States:</strong> Available and unavailable</td>
</tr>
</tbody>
</table>
| **States:** Disabled | **Elements:**  
| **Status:** Ready/OK, fault, alert, standby, ready delay, waiting for ready |  
| **Elements:**  
| **Condition:** Component available (detected) but disabled. | **Elements:**  
| **Button:**  
| **Type:** Status/State component button | **Condition:** When screen content continues on next/previous screen  
| **Color:** black or dark grey | **1. Button:**  
| **Text:**  
| **1st line:** Zone name |  
| **Font color:** grey | **Icon:** Arrow  
| **Behaviors:** Touch only – Navigate to component or diagnostics screen |  
| **Currently Used For:** Only on the home screen |  
| **Behavior:** Touch | **Color:** Blue  
| **Location:** Middle center | **Touch and Hold** |
**On/Off and Enable/Disable Control Element**

**Use:** View/change the on/off or enable/disable state of a control

**States:** Available and unavailable

**Elements:**

- **Text:**
  - 1st line: Required On/Off status
  - Font color: White
  - Location: Lower-right
  - Wrapping: No

- **Graphic:**
  - **Use:** Optional – but, mandatory is primary text descriptor is not present (i.e. heaters, pumps, etc.)
  - **Color:** White
  - **Location:** Middle/Centered

**Examples**

<table>
<thead>
<tr>
<th><strong>Control</strong></th>
<th><strong>Ghosted Icon</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Heater Control</td>
<td></td>
</tr>
<tr>
<td>Pump Control</td>
<td></td>
</tr>
<tr>
<td>Standby</td>
<td></td>
</tr>
<tr>
<td>Scheduler</td>
<td></td>
</tr>
<tr>
<td>Full Fill</td>
<td></td>
</tr>
</tbody>
</table>

**Behaviors:** Touch only: Toggle
### Radio Button Element

**Use:** To select only one option from a list (mutually exclusive)

**States:** Available and unavailable

**Elements:**

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Graphic</td>
<td>Description</td>
</tr>
<tr>
<td>1</td>
<td>Available</td>
<td>Text: Variable characters</td>
</tr>
<tr>
<td></td>
<td>Available</td>
<td>Font color: White</td>
</tr>
<tr>
<td>2</td>
<td>Selected</td>
<td>Wrapping: No</td>
</tr>
<tr>
<td></td>
<td>Graphic: Optional</td>
<td></td>
</tr>
</tbody>
</table>

**Condition:** If another option currently selected, and if a user touches another available option, the former becomes unselected.

**Behaviors:** Touch only, selects single option

### Radio Button with List Box Element

**Use:** To select only one option from a list. (mutually exclusive)

**States:** Available and Unavailable

**Elements:**

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Graphic</td>
<td>Description</td>
</tr>
<tr>
<td>1</td>
<td>Available</td>
<td>Text: Variable-size characters</td>
</tr>
<tr>
<td></td>
<td>Available</td>
<td>Font color: Black</td>
</tr>
<tr>
<td>2</td>
<td>Selected</td>
<td>Wrapping: No</td>
</tr>
<tr>
<td></td>
<td>Graphic: Optional</td>
<td></td>
</tr>
</tbody>
</table>

**Condition:** If an option is currently selected, and user touches another available option, the former becomes unselected.

**Behaviors:** Touch only, selects single option
Check Box Element

Use: To select multiple options from a list

States: Available and unavailable

Elements:

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Graphic</td>
<td>Description</td>
</tr>
<tr>
<td></td>
<td>Available</td>
<td>Text: Variable-size characters</td>
</tr>
<tr>
<td></td>
<td>Selected</td>
<td>Font color: Black Wrapping: No</td>
</tr>
<tr>
<td></td>
<td>Unavailable</td>
<td></td>
</tr>
</tbody>
</table>

Condition: Upon selection of an option, if another option currently selected, it becomes unselected.

Behaviors: Touch only, multi-select options

Drop-down List Element

Use: To select one option within a drop-down list. Mutually exclusive. Similar to a Radio Button Control.

States: Available and unavailable

Elements:

1. Drop-down 1:
   - Type: Drop-down list without text box.
   - Text – Optional. Flush left.
   - Color: Black
   - Wrapping: No

2. Drop-down 2:
   - Size of text box: Variable
   - Type: Drop-down list with text box or graphic.
   - Text – Flush left.
   - Color: Black
   - Wrapping: No

Behaviors: Requires 2 touch events, one to make the drop-down list appear, and another to make selection. Upon selection, the drop-down list collapses, displaying the selected option.

Notes:
Default text content can include default value/selection or brief instructions, such as Make selection.
### Units Selection Button

**Temperature button ribbon**

Use: To select one (button) option within a button ribbon. Mutually exclusive. Similar to a Radio Button Control.

**Elements:**
- **State**: Available
  1. **Button**:
     - **Type**: Unit Selection
     - **Color**:
       - Selected: Blue
       - Not selected: White
  2. **Title**: Variable
     - **Font color**: Blue (regardless of selection)
     - **Location**: Middle, centered
- **Condition**: If an option is currently selected within the button ribbon, and user touches another available option, the former becomes unselected.

**Behaviors**: Touch only, single select an option

**Currently Used For**: Secondary (Units) Screen

### Pressure button ribbon

**Entry Element**

Use: To view or change a numeric or alphanumeric value.

**States**: Available and Unavailable

**Elements:**
- **Condition**: Upon touch, displays either the numeric and/or alphanumeric key pad.
- **Button**:
  - **Type**: Entry box
  - **Text**: Flush left
  - **Size**: Variable
  - **Color**: Black
  - **Wrapping**: No

**Behaviors**: Touch

**Note**: Default contents could include default value.

**Special use** – hashed color graphic and solid color graphic used within entry box to visually link values to their respective graphical elements (bead delay and duration).
**LED Indicator Element**

Use: To view ‘live’ input and output signals.

States: On, Off and Flashing

Elements:

<table>
<thead>
<tr>
<th>Graphic</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Off</td>
</tr>
<tr>
<td></td>
<td>On</td>
</tr>
<tr>
<td></td>
<td>Flashing</td>
</tr>
</tbody>
</table>

Behaviors: View only (this particular use indicates remote recipe selection via parent machine communications).

**Numeric Key Pad**

Use: To view or change a numeric only value.

Elements:

- **Type**: Numeric Key Pad
- **Color**: Blue
- **Text**: Numbers
- **Location**: Center/Middle
- **Font color**: White

Note: Multiple numeric key pad options; with decimal, or with time/date (multi-use) option (i.e. the “/” is entered when date field has focus, the “:” is entered when time field has focus).
### Alphanumeric Key Pad

**Use:** To enter alphanumeric values

**Elements:**
- **Type:** Numeric key pad
- **Color:** Blue
- **Text:** Text and numbers
- **Location:** Center/Middle
- **Font color:** White

**Notes:**
- Depending on product, multiple language options may be available.
- Depending on language and product, can toggle between upper and lower case letters.
- Can toggle between alpha characters and numeric/extended characters.

---

### Scrolling List Box Element

**Use:** To view system and diagnostic information

**Elements:**
1. **Text box:**
   - **Text:** Max characters unlimited
   - **Color:** Black
   - **Wrapping:** Yes
2. **Scroll slider**

**Behaviors (slider control):**
- Touch
- Touch and Hold

---

### Slider Element

**Use:** To modify setting

**Elements:**
1. **Slider Element:**
   - **Graphic:** Optional
2. **Scroll slider** – resolution may be driven by hardware limitations (i.e. some previous touch screens only allowed for four different brightness and contrast settings). In these cases, slider should “step” accordingly.

**Behaviors (slider control):**
- Touch
- Touch and Hold
- Possible touch and drag on newest Eaton touch screen
| Bottom Navigation Bar | Use: Any screen except for the home and popup screen  
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Content:</strong> Will vary based on screen type. See icon definition document for further details on individual icon usage and limitations.</td>
<td></td>
</tr>
</tbody>
</table>

| Top Status Bar | Use: Depends on product and size/orientation of screen  
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Content:</strong> Will vary based on screen type. See icon definition document for further details on individual icon usage and limitations.</td>
<td></td>
</tr>
</tbody>
</table>
# System Status Indicators (icon and color)

<table>
<thead>
<tr>
<th>Status</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ready</td>
<td>Ready / Low Level</td>
</tr>
<tr>
<td>Ready / Service Req.</td>
<td>Ready Delay</td>
</tr>
<tr>
<td>Standby</td>
<td>Heat Off – Fill Off</td>
</tr>
<tr>
<td>Heating – Fill Ready</td>
<td>Heating – Fill Off</td>
</tr>
<tr>
<td>Heat Ready – Fill Off</td>
<td>Heat Off – Fill Ready</td>
</tr>
<tr>
<td>System Alert</td>
<td>System Fault</td>
</tr>
</tbody>
</table>

**Use:** System status conditions

**Elements:** No child elements – single graphic and supporting text convey message

**Behavior:** Large icons, text, and color blocks appear in the middle portion of the system status screen to provide system status. Larger display appears when user-defined screen saver delay time is reached. Touch event on the large screen navigates user back to last-viewed page. Touch event on smaller middle status bar navigates user to event log.

4% of the population has some degree of color blindness. Do not rely on color differentiation alone to indicate a state or status.

States and status should always be easily observed from a far distance from the screen.
7. Icon Design

**Links to Icon libraries:**
- Icon Library (Sharepoint *.png format: here)
- Icon Library (Sharepoint *.ai format: here)

**Link to System Icon Definitions:**
- (Sharepoint: here) or (External: here)

Most of the melter and pattern control icons have been created with regard to the ISO 7000 standard which can be found here.

New icon design, modification, and publishing will be handled through the U.S. engineering group for the time being. Additional long-term storage (with search capabilities) and on-line access options are still being evaluated.

Animated graphics/icons should be used sparingly due to file size considerations and should be displayed in a smooth manner.
8. Language String Behavior

Font usage guidelines:
Arial font family and international language character sets

Font size guidelines:
Minimum size to be used: 10 point / 13px / 0.8em

Font color guidelines:
Use dark text on light backgrounds and light text on dark backgrounds to give contrast so the text is easier to read.

Textbox:
A textbox with a scroll option should be used when large amounts of text need to be displayed like in the example to the right.

Translation swell:
Some languages such as German and French can require as much as twice the space needed as English for some terms. Developers must allow approximately 50% of additional space for translation swell.

Bold:
Use bold text sparingly. Use bold text only when it is important to draw the user’s attention to a specific piece of information.

Capitalization:
Use sentence-style caps for all titles, headings, labels and menu items. (e.g. System settings)

Language:
Refer to users as “you” as opposed to “I” or “we” but avoid using pronouns if possible.

Goal-oriented:
Lead with the goal rather than the method.

Conciseness:
Use only simple and necessary words.

Present Case:
Write in the present to avoid confusion.

Consistency:
Use the same terms throughout all screens and documentation.
9. Terminology

Adhesives’ Terminology Glossary can be found here:
(Sharepoint: [here](#)) or (External: [here](#))

<table>
<thead>
<tr>
<th>10. Resources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apple Style Guide - <a href="#">here</a>.</td>
</tr>
<tr>
<td>Google Design - <a href="#">here</a>.</td>
</tr>
<tr>
<td>International Standards Organization (ISO 7000) - <a href="#">here</a>.</td>
</tr>
<tr>
<td>iOS Human Interface Guidelines - <a href="#">here</a>.</td>
</tr>
<tr>
<td>Microsoft Developer Network - <a href="#">here</a>.</td>
</tr>
<tr>
<td>The Chicago Manual of Style - <a href="#">here</a>.</td>
</tr>
<tr>
<td>The Elements of Style - <a href="#">here</a>.</td>
</tr>
<tr>
<td>BS EN 60204 (Safety of Machinery – Electrical Equipment of Machines – Section 10: Operator Interfaces) – Sharepoint file can be found <a href="#">here</a></td>
</tr>
</tbody>
</table>
Appendix:

Freedom Menu Structure:
<table>
<thead>
<tr>
<th>Spectra Main Menu Structure:</th>
<th>Settings, Tools, Purge, Recipes, Lock, Pressure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spectra Settings Content:</td>
<td></td>
</tr>
<tr>
<td>Language</td>
<td>Inputs</td>
</tr>
<tr>
<td>Components</td>
<td>Outputs</td>
</tr>
<tr>
<td>Encoder</td>
<td>Machine Settings</td>
</tr>
<tr>
<td>Units/Scale</td>
<td></td>
</tr>
<tr>
<td>Spectra Tools Content:</td>
<td></td>
</tr>
<tr>
<td>Backup/Restore/Reset</td>
<td>Diagnostics/Messages</td>
</tr>
<tr>
<td>System Information</td>
<td>Self Test</td>
</tr>
<tr>
<td>Screen Tools</td>
<td></td>
</tr>
</tbody>
</table>

**Main Menu**

![Main Menu Image]

**Settings & Tools Menus**

![Settings & Tools Menus Image]