JR CLANCY

RSC-5000 CONSOLE INTERFACE
SOFTWARE GUIDE

RSC-5000 Console Interface Software Guide

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GETTING STARTED

GENERAL DESCRIPTION

RAYNOK is a state of the art, PC-based automation system running within a Windows™ environment composed of many software and hardware elements. This manual is mainly concerned with the software used to operate the **RSC-5000 TOUCHSCREEN INTERFACE**. **RAYNOK SOFTWARE** allows the user to control vast numbers of moving elements quickly and safely through its streamlined and fully customizable interface. Users can build multiple shows containing many *Cues, Autofollows,* and *Complex Motion Profiles* as well as have instant manual control over every element. **RAYNOK** is designed to be as flexible as possible in order to keep up with your creative needs.

The **RSC-5000 TOUCHSCREEN INTERFACE** is used to compliment the **RAYNOK SOFTWARE** as an advanced Macro Interface and Viewer. Read and understand the contents of this manual before operating the **RSC-5000 TOUCHSCREEN INTERFACE**. Failing to do so may result in serious injury or death.

USER LOGIN
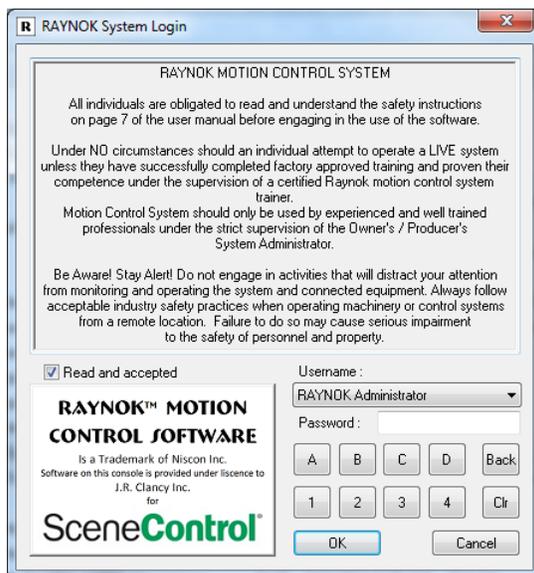
When accessing *Application Options*, the User Login is displayed. **RSC-5000** is set up by the **RAYNOK** ADMINISTRATOR and it should not be necessary to access this menu unless in a diagnostic situation.

Read the User Agreement carefully. It contains important information that the end user should be aware of. Click the 'Read and accepted' box once the user agreement has been read. The 'OK' button will be greyed out until this box has been clicked.

Once this step is completed, a user ID may be selected from the *Username pull down menu*, and a password must be entered to match the *user ID*.

Default login information will be provided by J.R. CLANCY INC.

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SUGGESTED SAFETY PROCEDURES

There is no safety device more important to any machinery control system than an alert and properly trained operator. All personnel that use this motion control system must be properly trained in its safe operation prior to moving any equipment or machinery via the remote control system.

To ensure that the operator is properly prepared to engage in the operation of the machinery and equipment that this control system operates, consider these simple guidelines and safety checks. The list of notes below is just a set of guidelines and should never be taken as the only safety notices to be met. Use this list in conjunction with any performance and safety guidelines provided by the owners of the control system.

Before Operating the System

- Enable the Emergency Stop System

- Reset all axes via the **RAYNOK SOFTWARE**

- All axes should report ready in the status column

- Depress the Emergency Stop Button

- All axes should report E-stop in the status column

- Open the E-stop report view and ensure that the local E-stop button is reporting properly

- Reset the system and test any other Emergency Stop buttons that have been identified by your company or management as integral to the safe operation of the system

- Follow any other guidelines that have been outlined by your company management

To safely move a machine or equipment connected to the system

- **DO NOT WORK ALONE,** controlling this equipment from a remote location can be dangerous, always work with another individual when moving machinery and equipment

- With the assistance of another person, properly trained in the operation of the equipment, stationed in the vicinity of the machinery or equipment to be moved ensure that all equipment and personnel are clear and that there are no collision obstructions

- Understand the limitations of the equipment attached to the machinery

- Do not attempt to run a machine that has the potential to injure personnel who are working on it

- If there are personnel working directly on a machine or it's attached equipment, disable the axis in the control software and turn off the power to the motor drive

- If your system does not have audible or visual warnings that machinery is in motion, warn all personnel working in the vicinity of equipment being moved that it is about to move via a method approved by your management personnel (i.e. Verbally call out via a loud clear voice or radio communications *"Lineset number 22 standing by to move!!"*)

- Once the "GO" button has been depressed and the machinery is set in motion again warn all personnel working in the vicinity of the equipment that has been set in motion (i.e. Verbally call out via a loud clear voice or radio communications "Lineset number 22 moving!!")

- Maintain your hand in close vicinity to the STOP button

- Stay alert and stay in visual contact with the equipment in motion

- Your attention should only be diverted from the equipment in motion to check the computer screens to verify data pertaining to the current move

- When the equipment has come to a complete stop confirm with the personnel working in the vicinity that motion has stopped

INTERFACE OVERVIEW
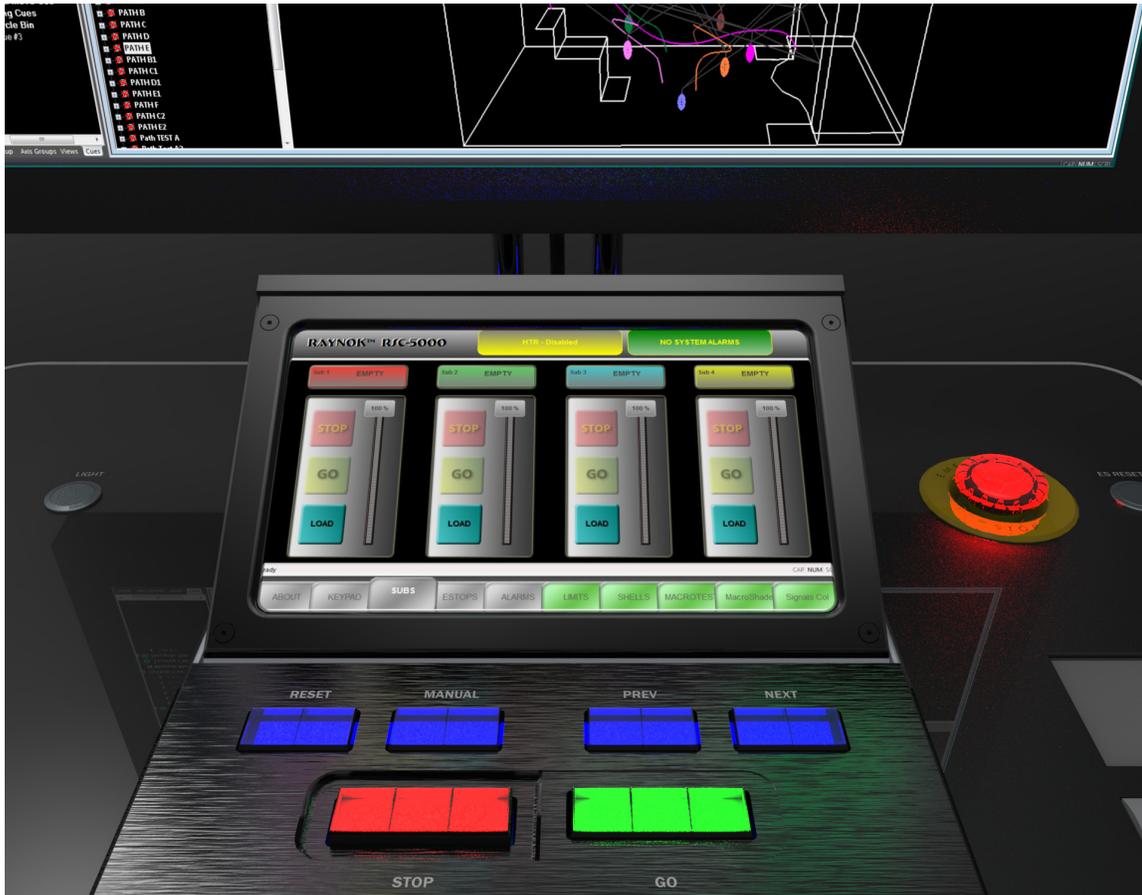
THE RSC-5000 CONSOLE SCREEN AS SEEN ON A SC5500 CONSOLE

The **RSC-5000 CONSOLE INTERFACE** is composed of the following areas:

The TitleBar area at the top of the screen is used to display the status of the HTR (Hold To Run) and the Systems Alarms Status indicator.

> Note: To Short cut jump to the Systems Alarms Tab, double tappinging the Systems alarm Indicator will cause the **RSC-5000 CONSOLE INTERFACE** to jump to the Alarms Tab.

The main touch screen area is the center section of the screen. This area is the usable function area for each of the tab pages.
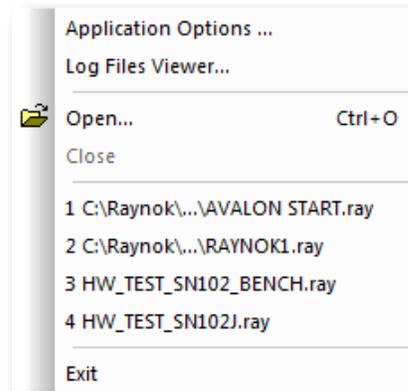
The Tab Bar area on the bottom of the display is where all the tabs are located; touch the desired tab to show that tab's page. The default tabs are as follows:

ABOUT   This Tab provides the general information about the system and the manufacturer contact information

KEYPAD   This Tab is the onscreen keypad used to help navigation and data entry for the system.

SUBS   This Tab is the SubMasters Tab. For the **SC5500 Console** the submasters tab has 4 submasters. For the **SC5600 Console** the submasters tab displays 8 submasters

ESTOPS   This Tab is used to display the system's remote e-stop button's status.

ALARMS   This Tab is used to display and acknowledge system alarms.

Reference the Tabs section for more details on each Tab.

FILE MENU

Opens Application options

Opens Log File viewer

Opens an existing **RAYNOK** show file

Closes Current **RAYNOK** show file

Lists up to 4 most recent files which have been opened

Exits **RAYNOK**

Application Options ...	
Log Files Viewer...	
📂 Open...	Ctrl+O
Close	
1 C:\Raynok\...\AVALON START.ray	
2 C:\Raynok\...\RAYNOK1.ray	
3 HW_TEST_SN102_BENCH.ray	
4 HW_TEST_SN102J.ray	
Exit	

VIEW MENU

Shows/Hides Toolbar

Shows/Hides Status Bar

Shows/Hides Workspace

Shows/Hides Command Bar

Shows/Hides Control Bar

Shows/Hides Tab Bar

✔	Toolbar
✔	Status Bar
✔	Workspace
✔	Command Bar
	Control Bar
✔	Tab bar
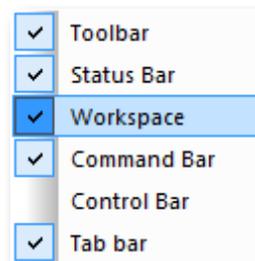
HELP MENU

Loads the help file for the **RAYNOK SOFTWARE**

Brings up Information on **RAYNOK** (version)

RAYNOK Help	F1
❓ About RAYNOK...	
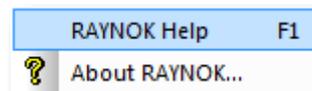
Tabs

One of the keys to getting the most out of **RSC-5000** is to understand the information being displayed through the various tabs. Most tabs are straight forward, however the SubMasters Tab can be easily overlooked and will be given special attention in the following sections. Most of the screenshots displayed here are from the **SceneControl® 5500 Console** unless otherwise specified.

About Tab

The ABOUT Tab is a pre-configured Tab that is the initial startup tab for the **RSC-5000 TOUCHSCREEN INTERFACE**. This Tab displays the system's branding and software version number of the interface software installed and currently running on the **RSC-5000 TOUCHSCREEN INTERFACE**.

KEYPAD TAB

The KEYPAD Tab is a pre-configured macros button tab. This tab's layout has been created based on the macros that will be used most frequent to speed up the user's ability to command the system. This view is not configurable by the end user and is preparatory to the RSC-5000 TOUCHSCREEN INTERFACE.

Most of the keys are self-explanatory and will not be described in detail here. One key of note is the 'RAYNOK' key, which when pressed will toggle the menu bar. This is useful in Show Mode and the system administrator does not wish for the operator to be able to exit out of the software.

SubMasters Tab
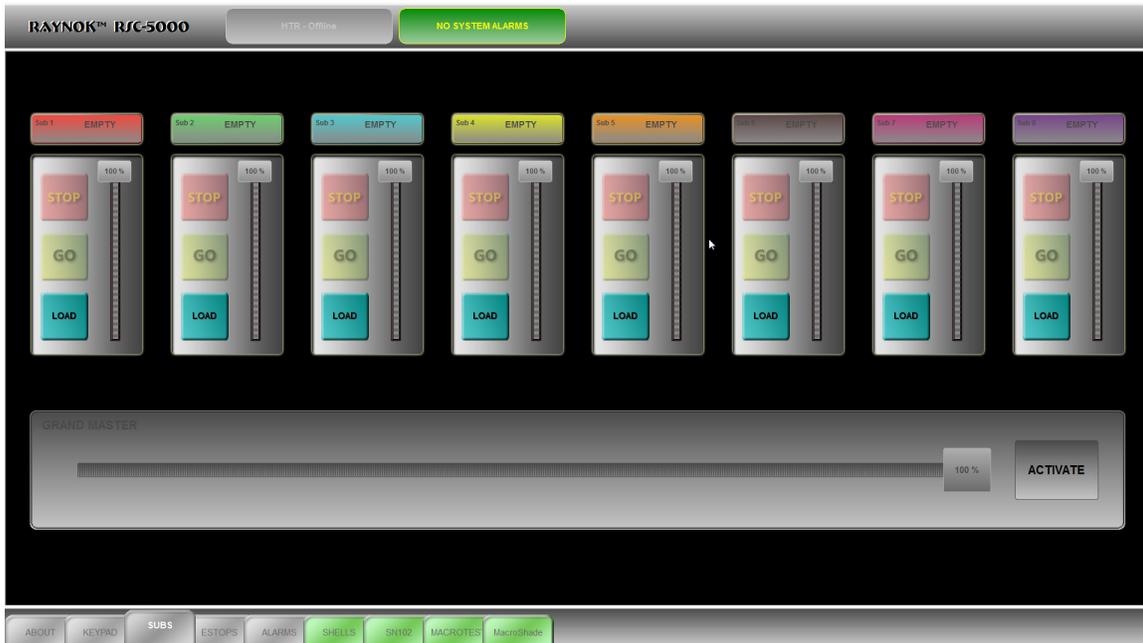
THE RSC-5000 Console Submasters screen as seen on a SC5600 Console

Submasters are a way of controlling feed rates of axes while they are in motion. The **SceneControl 5500** has 4 submasters available, while the **SceneControl 5600** has 8 along with a 'GRAND MASTER' control. Each submaster is configured by clicking on the 'LOAD' button and following a simple wizard. The following pages are a simple guide to configuring a sample submaster.

Step 1: Click on the 'LOAD' button on a submaster. This example will use a **SC5500 Console**, but the **SC5600** has the same setup.
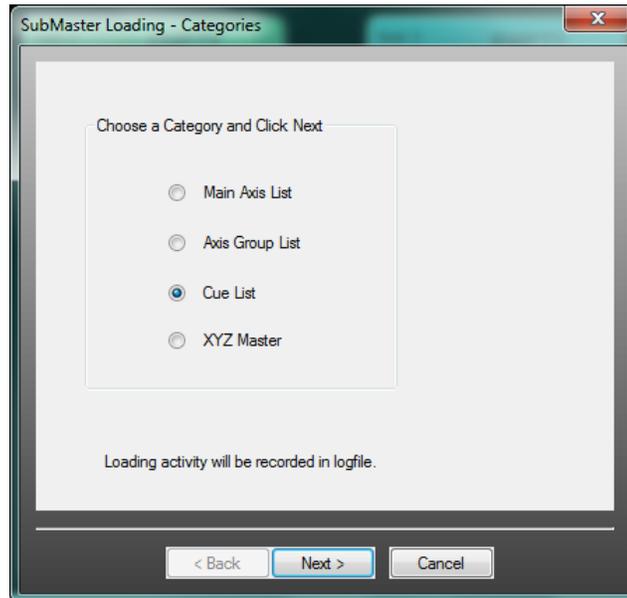

THE RSC-5000 Console Submasters screen as seen on a SC5500 Console

As can be observed above, the submasters are completely empty. When a submaster is empty, or in the 'UNLOADED' state, it doesn't have anything assigned to it. The submaster will be displayed in grey and the status will be listed as 'EMPTY' in the top rectangle.

Step 2: The first screen of the wizard gives the user a choice of 4 categories:

1 - Main Axes List: Gives the user the option of selecting any axis from the entire system.
2 - Axis Group List: Gives the user the option of selecting any Axis Group. The submaster will then control an entire group of axes when set up.
3 - Cue List: This option will show a list of the Cues in **RAYNOK**
4- XYZ Master: In a 3D **RAYNOK** setup, the list will display all the XYZ Master Controllers

For this example, choose the 'Cue List' option.

**THE RSC-5000 CONSOLE SUBMASTERS LOADING CATEGORIES SCREEN**

Click on 'Next'.

Step 3: Choose a Cue from the list. Only one cue can be controlled from a submaster. The Cue List is generated from the main **RAYNOK** ShowFile currently running in **RAYNOK**. For this example we will choose 'Cue #A'
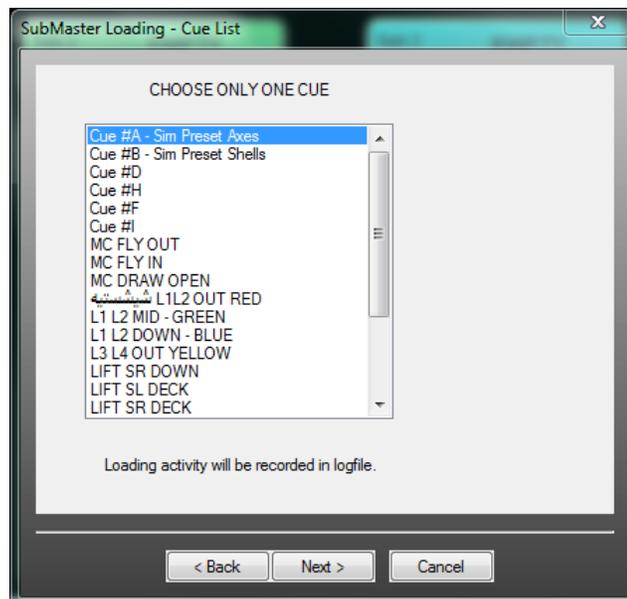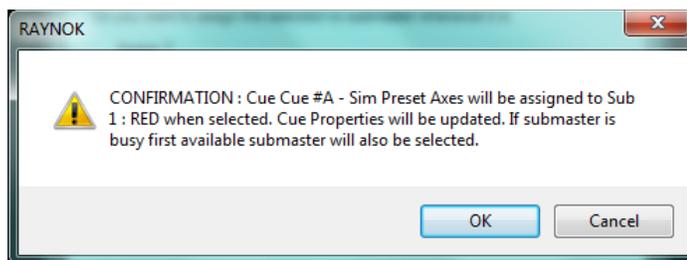

THE RSC-5000 CONSOLE SUBMASTERS CUE LIST SCREEN

Click on 'Next'.

Step 4: The Sub Assignment screen lists the Current Selection and the Submaster name and colour. Click on the 'Assign - Yes' Radio button if the listed selections are valid.
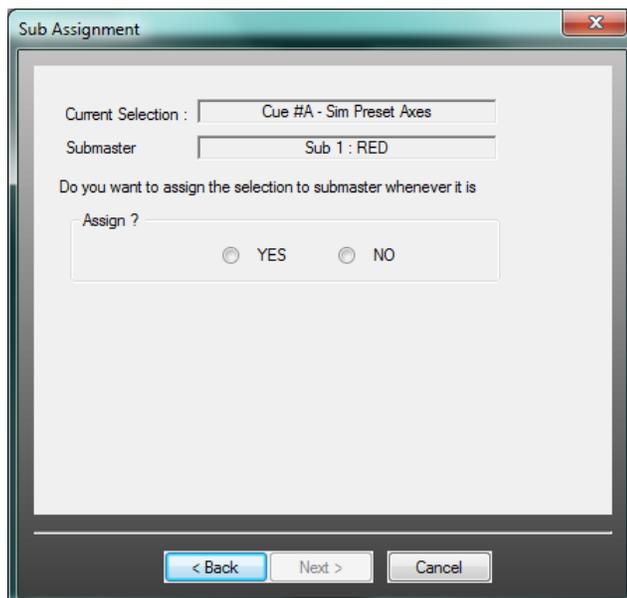

THE RSC-5000 CONSOLE SUBMASTERS SUB ASSIGNMENT SCREEN

THE RSC-5000 CONSOLE SUBMASTERS CONFIRMATION SCREEN

A confirmation window will appear listing the information:
The window describes the Cue Name, Submaster Name, and a warning. The warning lets the user know that the Cue Properties within the main **RAYNOK SOFTWARE** will be updated, thus altering the show file. Once OK is pressed, another option will be available, LOCKING.
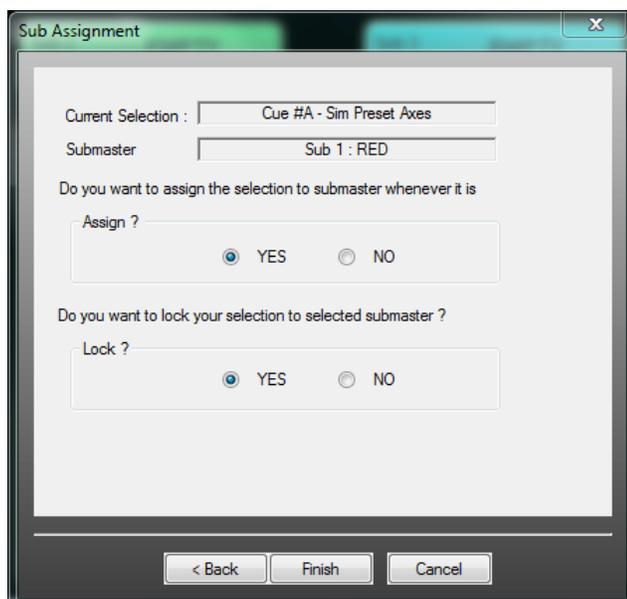
Step 5: Submasters allow the user to 'LOCK' a submaster. This option will give the user a warning when they click on the 'UNLOAD' after the submaster has been assigned. This is helpful if a user accidentally presses the UNLOAD button or if the main system administrator wants to keep a submaster the way it is for that particular show file.

Click on FINISH when all the options are set to satisfactory choices.

The finished submaster should look like the picture below:

THE RSC-5000 CONSOLE SUBMASTERS FINAL SCREEN

When a submaster is loaded, the top rectangle will indicate the assignment, whether it is locked or not, and the STOP and GO keys along with the FEEDRATE SLIDER will become available. Additionally, the 'LOAD' key will now become the 'UNLOAD' key. Clicking on UNLOAD will remove the assigned submaster (and display a warning if it is locked). When **RAYNOK** is ONLINE (submasters do not work in simulation mode), press and drag the slider to control the speed of a cue while it is in motion.

Additional Notes

At any point during the setup process if cancel is selected, the following dialog will be displayed:
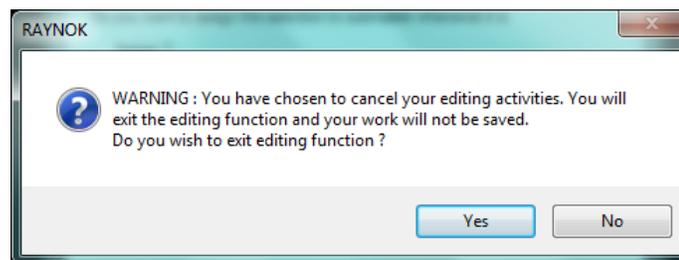
THE RSC-5000 CONSOLE SUBMASTERS CANCEL SCREEN

The warning indicates that the program will delete all the progress in the setup for that particular submaster.

Regarding Axes Submasters: selecting an Axis from the 'Main Axis List' for a submaster singles out the axis in any cue. Pressing 'GO' on the submaster will cause only this particular axis to move in any cue within **RAYNOK**. For example, if a cue has all axes moving, using the submaster's GO will cause only this axis to move on its own.

ESTOPS TAB

The E-STOPS Tab is a pre-configured console view tab used specifically to display the systems E-Stop reporting. This view uses a signal group named 'All Estops' to display its signals. To setup and/or edit the ESTOPS Tab view refer to the **RAYNOK SOFTWARE MANUAL** sections regarding Signal Groups and Macros Views.

The E-STOPS Tab will flash RED automatically when an E-STOP is triggered anywhere in the system.

ALARMS TAB
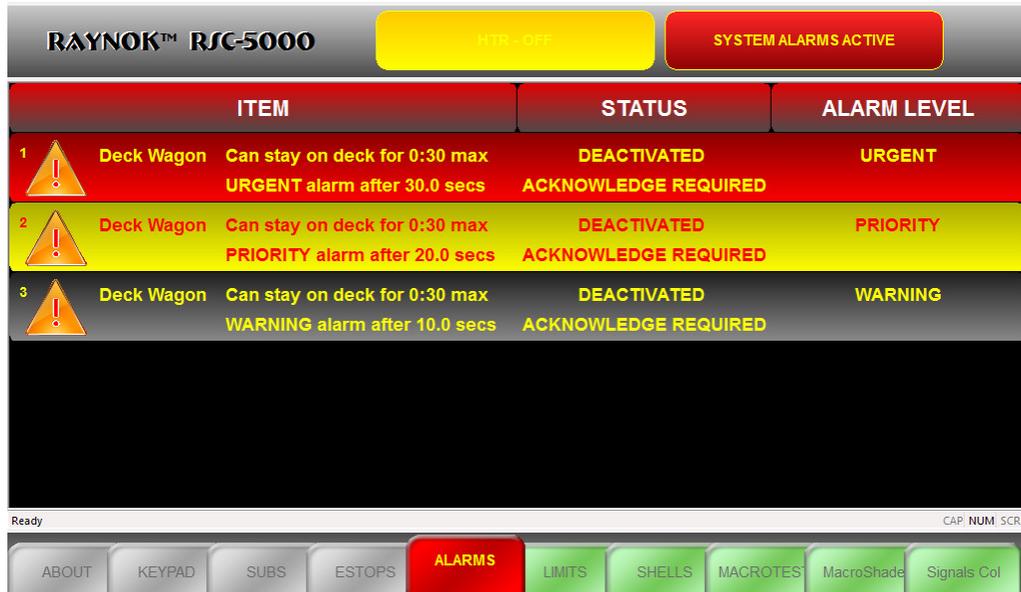
The Alarms Tab is a pre-configured console view tab used specifically to display the current system alarms that have gone off. They are programmed into the system from the main RAYNOK SOFTWARE. To learn more about System Alarms and how to set them up, refer to the RAYNOK SOFTWARE MANUAL section regarding System Alarms.

When an alarm is set off by the system, the top left section in the TitleBar will flash red with the message 'SYSTEM ALARMS ACTIVE' along with the Alarms Tab itself. Double-tap the box or the tab (if not currently viewing the Alarms tab). To acknowledge an alarm, double-tap the row with the alarm. The following dialog box will appear:
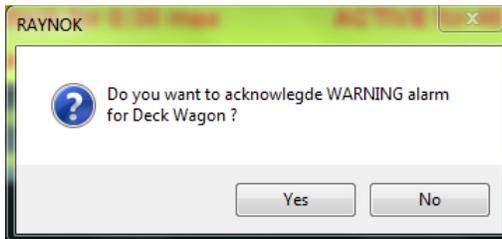

THE RSC-5000 SYSTEM ALARMS CONFIRMATION SCREEN

Once an alarm is acknowledged, it will be recorded in the System Logs and the warning will go away until it is triggered again.

SIGNAL VIEW TAB

The **RSC-5000 SOFTWARE** is capable of displaying Signal and Macro views directly mirrored from the main **RAYNOK SOFTWARE**. The screenshot above is just one example of what can be done with this view. To add a Signal View Tab, add a new view within the main **RAYNOK SOFTWARE** in the 'Console Views' section of the 'Views' tab:
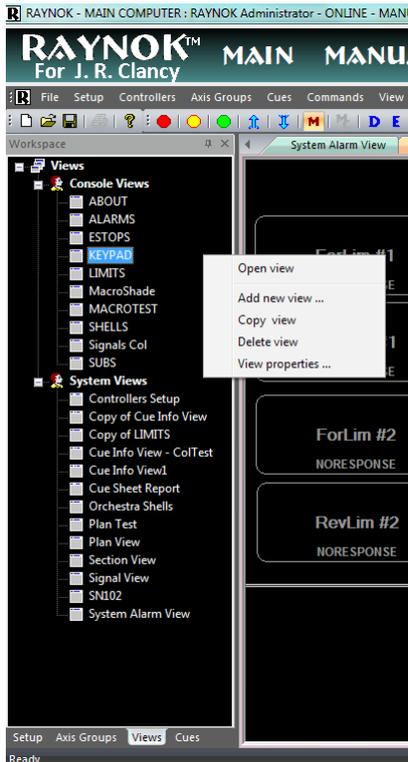
Additional information regarding creating and editing Signal Views can be found in the **RAYNOK SOFTWARE MANUAL**.

Views will appear in the exact dimensions as in the main **RAYNOK SOFTWARE**, so when designing the view keep the dimensions in mind.
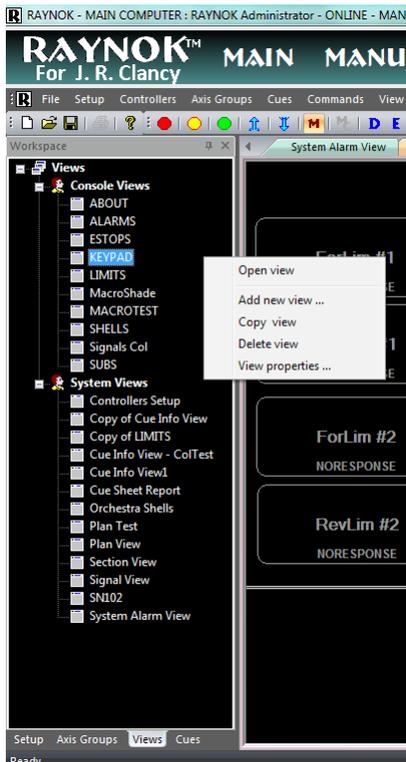
Dimensions for the 5500 View are: 1020 x 420
Dimensions for the 5600 View are: 1920 x 920

The View won't appear until the showfile within the main **RAYNOK SOFTWARE** is saved.

MACRO BUTTON TAB

The **RSC-5000 SOFTWARE** is capable of displaying Signal and Macro views directly mirrored from the main **RAYNOK SOFTWARE**. The screenshot above is just one example of what can be done with this view. To add a Macro View Tab, add a new view within the main **RAYNOK SOFTWARE** in the 'Console Views' section of the 'Views' tab:

Additional information regarding creating and editing Macro Views can be found in the **RAYNOK SOFTWARE MANUAL**.

Views will appear in the exact dimensions as in the main **RAYNOK SOFTWARE**, so when designing the view keep the dimensions in mind.

Dimensions for the 5500 View are: 1020 x 420
Dimensions for the 5600 View are: 1920 x 920

The View won't appear until the showfile within the main **RAYNOK SOFTWARE** is saved.

<u>N</u>OTES