

Series 9XXX Configuration and Recipe Management Guide



Super**Systems**
incorporated

Table of Contents

Introduction.....3

Instrument Configuration Management.....3

 Backup/Restore Tab 3

 Backup Section 3

 Comparison Section 5

Instrument Recipe Management8

 The Recipe Editor Button 8

 Recipe Editor Tab 9

 Load/Save Recipes 9

 Modify Recipes10

 Recipe Management Tab.....11

 Groups Tab.....11

 Transfer Section13

 Printing Section14

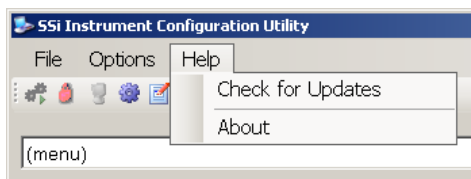
Archiving Instrument Configurations and Recipes.....14

Revision History 15

Introduction

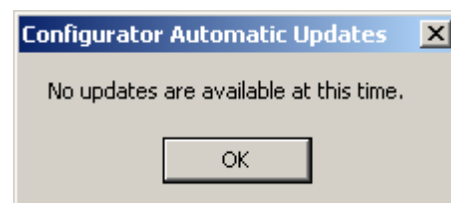
This guide covers the instrument configuration and recipe management functions for the SSI 9000 series instruments. Detailed information relating to individual instruments and additional functions can be found on SuperSystems' website:

<http://www.supersystems.com/manuals.html#miscmanuals>



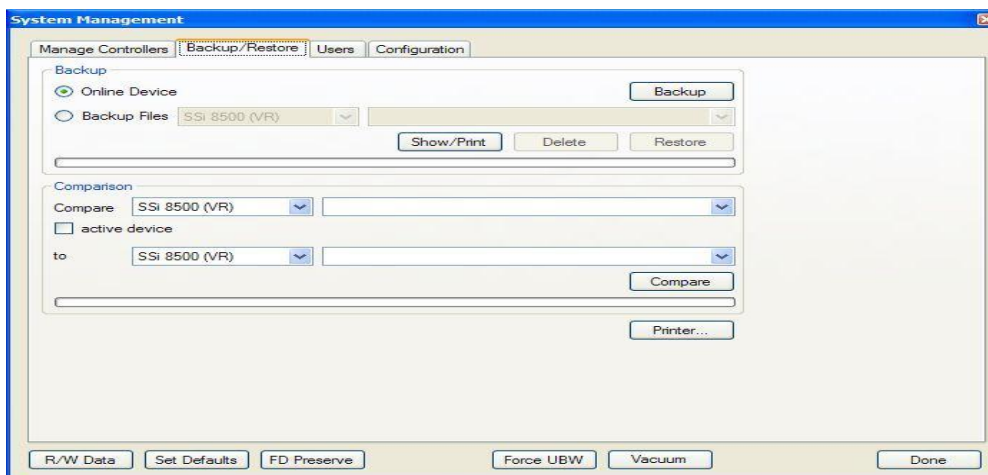
Before proceeding with any instrument management operation, it is good practice to ensure that the Configurator software is up to date. To do this click on the Help menu item and then click Check for Updates.

If the software is up to date then you are advised that no updates are available. Otherwise, the software will be automatically updated, and you will be returned to the previous Configurator state.



Instrument Configuration Management

Backup/Restore Tab



Configurator Backup/Restore Display

The Backup/Restore display allows the user to create a backup of a controller configuration or restore a controller to a previous configuration.

Backup Section

This area will allow the user to either backup the current controller or restore the current controller to a previous configuration. **Note: The user must be connected to a device before being able to backup or restore a configuration.** Selecting the "Online Device" option will allow


the user to backup the controller. Once this section is selected, the **Delete** and **Restore** buttons will become disabled, as well as the drop-down lists for the “Backup Files” section, as they deal only with backed-up configuration files. Clicking on the **Backup** button will back up the current configuration. The progress bar at the bottom of the section will update the backup progress.

Configurator – Backup Section with progress

The **Show/Print** button will display a print preview with the current controller’s configuration.

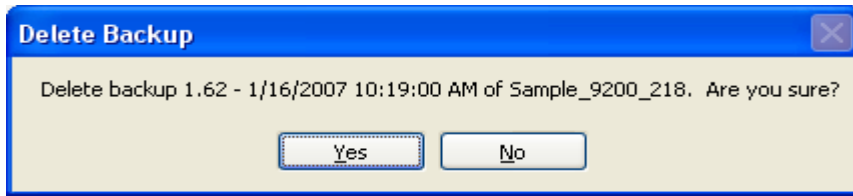
Sample_9200_218	
Revision	
Revision	1.62
Probe Setup	
Burnoff Time (sec)	90
Burnoff Res. Wait Time (sec)	120
Burnoff Interval (min)	250
Burnoff Minimum Millivolts	800
Burnoff Maximum Temperature	2000
Digital IN 4 Assignment	event
PID Loop 1 Setup	
Prop Band (0 for On/Off)	20.0
Reset	0.10
Rate	0.00
Mode	Single Reverse
Integral Preset	0
Cycle Time	15
Setpoint Change Limit	Off
Low Limit	100
High Limit	100
Q set point stops control	yes
IN1 high limit shuts down ctrl	no
IN2 high limit shuts down ctrl	no
IN3 high limit shuts down ctrl	no
PID auto switch	no
Switch Point PID 1->2	9999
Switch Point PID 2->3	9999
Overshoot limit gain	0
PID Loop 2 Setup	
Prop Band (0 for On/Off)	4.0
Reset	0.10
Rate	0.00
Mode	Single Reverse
Integral Preset	0
Cycle Time	60
Setpoint Change Limit	80%
Low Limit	0
High Limit	100
Q set point stops control	no
IN1 high limit shuts down ctrl	no
IN2 high limit shuts down ctrl	no
IN3 high limit shuts down ctrl	no
PID auto switch	no
Switch Point PID 1->2	9999
Switch Point PID 2->3	9999
Overshoot limit gain	0
PID Loop 3 Setup	
Prop Band (0 for On/Off)	4.0
Reset	0.10

Configurator – Print Preview screen

From this screen, the user can either print out the configuration by clicking on the printer icon, , or close the print preview by clicking on the **Close** button or the red X button on the top right

of the screen, .

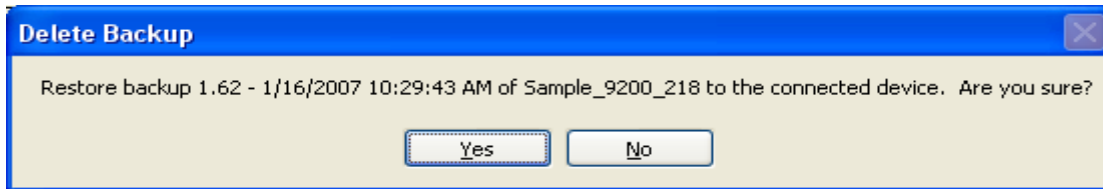
Selecting the “Backup Files” option will allow the user to manage the backup configurations on the local computer. When this option is selected, the **Backup** button will become disabled. The **Delete** button will delete the selected configuration. The user must confirm the delete first.



Configurator – Confirm Delete Backup file

Clicking on the **Yes** button will delete the configuration, but clicking on the **No** button will cancel the delete.

Clicking on the **Restore** button will restore a backup configuration to the connected device. The user must confirm the restoration.

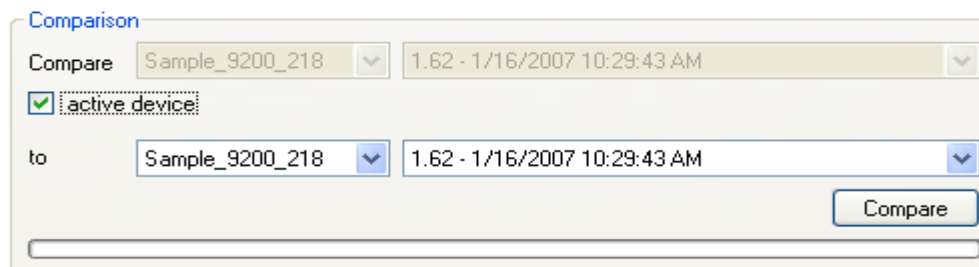


Configurator – Confirm Restore backup

Clicking on the **Yes** button will restore the selected configuration file, but clicking on the **No** button will cancel the restoration. The progress bar at the bottom of the section will update the restore progress.

Comparison Section

The Comparison section allows the user to compare two backup files to each other. ***Note: The user must be connected to a controller if he/she wishes to use the active device for comparison.*** If the user wishes to use the device the Configurator is connected to, the user can check the “Active Device” check box. This will disable the top two drop-down lists.



Configurator Compare section with “Active Device” checked

To compare a specific file with another, do not check the “Active Device” checkbox. If this checkbox is not checked, then all four drop-down lists will be enabled. The user can then select the device from the first drop-down list and the specific file for the comparison from the second drop-down list. The user can select the device where the file to compare to is from the third drop-down list, and the file to compare to can be selected from the fourth drop-down list. Once all of the necessary information has been setup, the user can click the **Compare** button. The progress bar at the bottom of the section will update the comparison. If the devices are identical, the Configurator will display a message box.



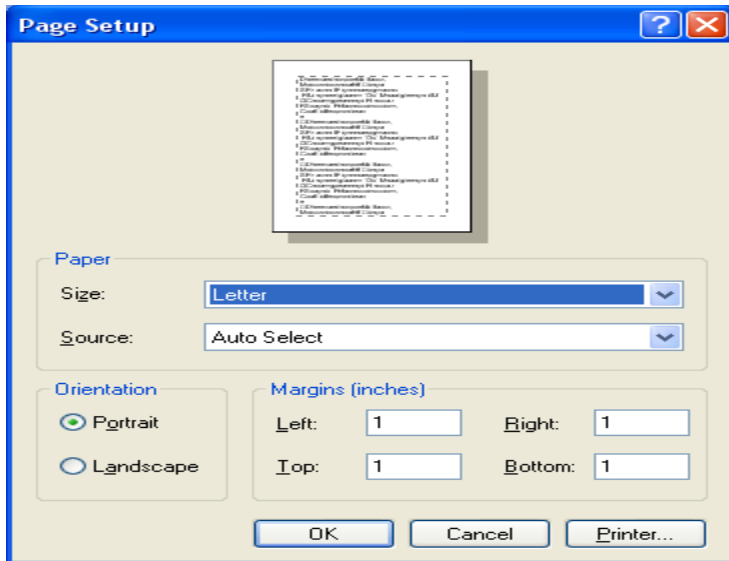
Configurator – Devices are identical message box

If the devices are different, the Configurator will display a print preview with the first device's values and properties printed in **red**, and the second device's values and properties printed in **blue**.

	Sample_9200_218 - 1.62 - 1/16/2007 10:29:43 AM	Sample2_9200_98 - 1.64 - 1/16/2007 10:48:26 AM
(Revision) Revision	1.62	1.64
(PID Loop 2 Setup) Mode	Single Reverse	Single Reverse
(PID Loop 2 Setup) Setpoint Change Limit	80%	Single Reverse
(PID Loop 2 Setup) 0 set point stops control	no	Single Reverse
(PID Loop 2 Setup) IN1 high limit shuts down ctrl	no	Single Reverse
(PID Loop 2 Setup) IN2 high limit shuts down ctrl	no	Single Reverse
(PID Loop 2 Setup) IN3 high limit shuts down ctrl	no	Single Reverse
(PID Loop 2 Setup) PID auto switch	no	Single Reverse
(Slave Instrument Setup) Instrument 1		
(Furnace Name) Furnace Name	Batch 1 SSY NY	Batch 1 Y Y*
(IP Address) IP Address 4	218	218
(Curve 1 Entry) Curve Type	none	none
(Curve 1 Entry) Control Range	250265	-17916
(Curve 1 Entry) mV 1	25974	167
(Curve 1 Entry) Vac 1	3186	10736
(Curve 1 Entry) mV 2	16640	22314
(Curve 1 Entry) Vac 2	16696	178
(Curve 1 Entry) mV 3	1	-12188
(Curve 1 Entry) Vac 3	3072	768
(Curve 1 Entry) mV 4	14592	-10414
(Curve 1 Entry) Vac 4	14648	768
(Curve 1 Entry) mV 5	18	3346
(Curve 1 Entry) Vac 5	63	182
(Curve 1 Entry) mV 6	320	-26354

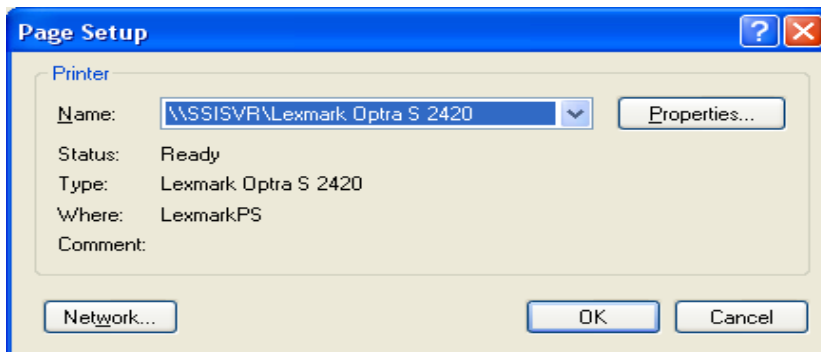
Configurator – Print Preview with different files

The **Printer...** button will allow the user to select page setup information for the printed documents. **Note: The printer settings are set to their defaults whenever Configurator loads. Any setting changes made through this button will not be saved.**



Configurator – Printer page setup screen

The user will be able to select the size and source of the paper, the orientation of the printed material, and the margins for the printed material. Clicking on the **OK** button will set the page settings. Clicking on the **Cancel** button will cancel the setup process. Clicking on the **Printer...** button will allow the user to select the printer to send the information to.



Configurator – Select Printer screen

The user will be able to select the appropriate printer from the drop-down list. Clicking on the **Properties...** button will display the properties for the selected printer. Clicking on the **Network** button will allow the user to search through the local network for a printer. Clicking the **OK** button will set the selected printer. Clicking the **Cancel** button will cancel the printer selection.

Instrument Recipe Management

The Recipe Editor Button



The Recipe Editor button is available to users of all access levels, however, users with Operator-level access cannot save recipes. This form allows users to manually edit a recipe. The toolbar at the top of the form contains the basic Windows-type functions, new, cut, copy, etc. The Windows-type shortcuts apply to most of the functions as well: Ctrl + C to copy, Ctrl + X to cut, etc. The menu will list the shortcut next to each command.



Configurator – Recipe Edit toolbar

From left to right are: New (load a blank recipe), Print (print out the recipe steps), Cut (cut a selected step), Copy (copy a selected step), Paste (paste the cut or copied step), Insert Step (inserts a selected step into the program and all steps below the inserted step will move down), Insert NO-OP Step (insert a NO-OP step into the program and all steps below the inserted step will move down), and Help (display a help page).

The Recipe Editor window has a menu bar (File, Edit, Help) and a toolbar. Below the toolbar is a 'Recipe Management' section with a 'Load' button, a 'Save as' button, a 'Distribute' button, a checked 'Use Online Device' checkbox, and a dropdown menu showing 'PCGroup'. The main area contains a table with 6 columns: Step, Opcode, Description, Temperature, Control, and Option.

Step	Opcode	Description	Temperature	Control	Option
1	EVT_OUT	event output	32 °F		0-ON
2	DELAY	short delay			10 sec
3	EVT_OUT	event output			0-OFF
4	EVT_IN	wait for event input			0-ON
5	SOAK	soak			0:30
6	RAMP_R	ramp at rate (temp)	1800 °F		25 °/min
7	SOAK	soak			0:05
8	RAMP_R	ramp at rate (temp)	2400 °F		15 °/min
9	SOAK	soak			1:00
10	RAMP_R	ramp at rate (temp)	1000 °F		100 °/min
11	SOAK	soak			0:01
12	EVT_OUT	event output	32 °F		4-ON
13	TC_INQ	temperature inquiry	200 °F	Control ...	wait down
14	EVT_OUT	event output			4-OFF
15	EVT_OUT	event output	32 °F		1-ON
16	DELAY	short delay			10 sec
17	NO-OP	no opcode			
18	NO-OP	no opcode			
19	NO-OP	no opcode			
20	NO-OP	no opcode			
21	NO-OP	no opcode			
22	NO-OP	no opcode			
23	NO-OP	no opcode			
24	NO-OP	no opcode			

A 'Done' button is located at the bottom right of the window.

Configurator Recipe Editor Screen

Recipe Editor Tab

Load/Save Recipes

The box in the top left of the form is where the user can select which recipe (0 – 300) to load. Use the up or down arrows, or just type in the recipe number and click on the **Load** button. The recipe steps will be filled in the white area on the form. Once the **Load** button has been clicked, the box to the right of the **Save As** button will be filled with the recipe number selected. By default, the **Save As** recipe will be the same as the **Load** recipe. To save the loaded recipe as a different recipe number, use the up or down arrows, or just type in the new number (0 – 300) in the box next to the **Save As** button and click this button.

Checking the “Use Online Device” check box will load and save the recipes on the currently connected controller only. Not checking this check box will load and save the recipes on the local computer (PCGroup) only.

The **Distribute** button causes the recipe(s) to be saved to multiple destinations. When this button is clicked, the Distribute Recipes pick list will be presented. Select the desired destinations by clicking the checkbox and adjust the recipe number as required. When finished click **Save** and the distribution will commence.

The progress bar at the bottom of the section will update the send process. **Note: Transferring recipes from or to a controller may take a few minutes.**

The 'Distribute Recipes' dialog box has a title bar and a 'Compatible devices and groups:' section. It contains a table with columns 'Target' and 'Save As'.

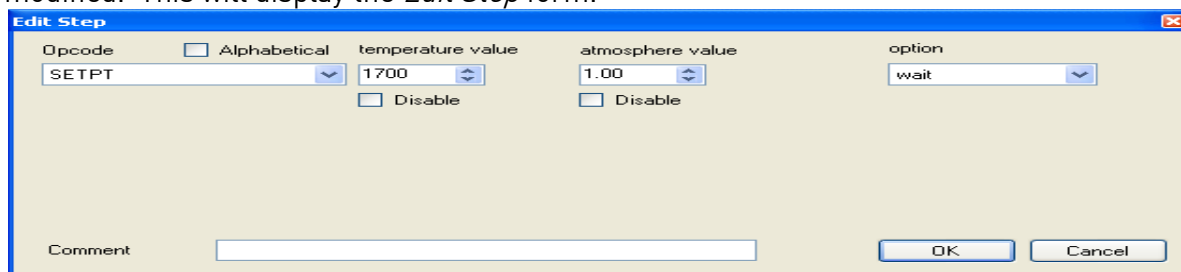
Target	Save As
<input checked="" type="checkbox"/> Furnace 2 (Device)	2
<input checked="" type="checkbox"/> Furnace 5 (Device)	2
<input checked="" type="checkbox"/> Vacuum Furnaces (Offline Group)	2

Below the table are buttons for 'Select All', 'Clear All Selections', and 'Save'. A 'Cancel' button is at the bottom right.

The “Recipe Description” line is a text description of the recipe. *Note: The recipe descriptions will only be saved if the recipes are being sent to a PC Group. When the recipe is sent to the controller, (Use online device selected), the description text is not transferred to the instrument.*

Modify Recipes

To modify any of the steps in the recipe, double-click on the row of the step that will be modified. This will display the *Edit Step* form.



Configurator Recipe Edit Step form

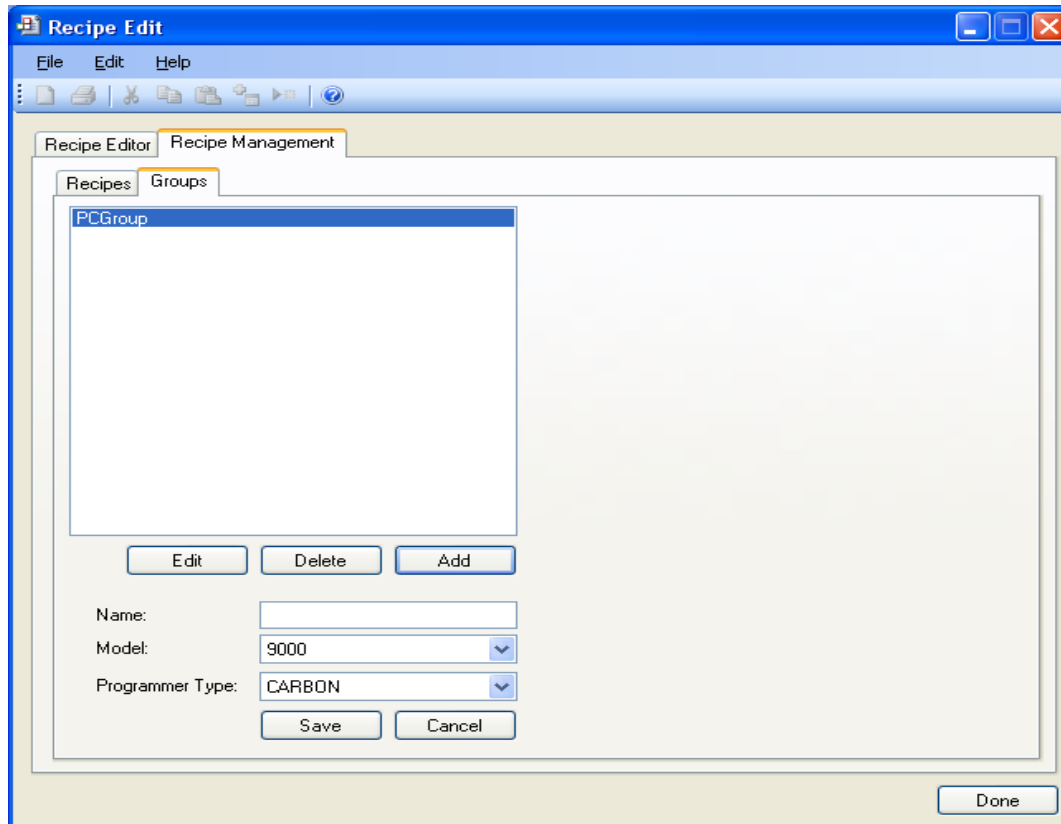
The drop-down list under “Opcode” allows the user to select the specific opcode that will be used in the recipe step. Checking the “Alphabetical” checkbox will allow the user to alphabetize the list. If a temperature value or an atmosphere value is needed, these can be set using the up or down arrows, or by just typing in the value. If these are not needed, check the “Disable” checkbox and the boxes will become unavailable. Note – for some opcodes, the display text will change and the *Edit Step* screen will look slightly different to accommodate the different types of values associated with each opcode, but the functionality of each item will remain the same.

The box(es) on the right side of the form is the action or value that should be taken. For instance, with opcode “SetPt”, the box on the right is the “Option” and there is a drop-down list of available options: wait, wait up, wait down. However, for opcode “soak”, the temperature value and atmosphere value fields disappear. The boxes on the right of the form are “Soak Time hours - minutes”, and there are two boxes that have values ranging from **0** to **166** for the hours and **0** to **59** for the minutes. These values can be adjusted by using the up or down arrows, or by typing the new value in.

The user can add an optional comment to the recipe step in the “Comment” field, if desired. Once all of the changes have been made, the user can click on **OK** to save these changes.

Recipe Management Tab

Groups Tab



Configurator – Recipe Management tab with Groups tab selected

The Groups tab will allow the user to add, modify, or delete the offline groups of recipes.

Offline groups are used to sort recipes saved to the computer memory in meaningful categories such as Process – Carburizing, Tempering, etc. or Furnace type – Pit Furnace, Belt Furnace Vacuum Furnace, etc.

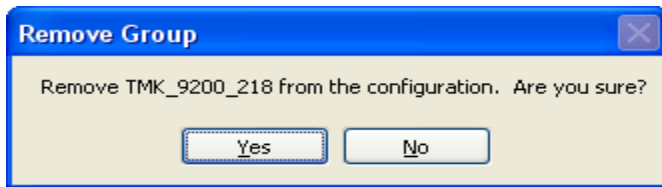
The offline recipe groups are used throughout the *Recipe Edit* screen, both on the Recipe Editor tab and the Recipe Management tab.

PCGroup is the default group loaded on initial startup.

To create a recipe group, click on the **Add** button. This will display the recipe group fields: Name, Model, and Programmer Type. Enter or select the desired values and click the **Save** button to save the new group, or click the **Cancel** button to cancel the add process.

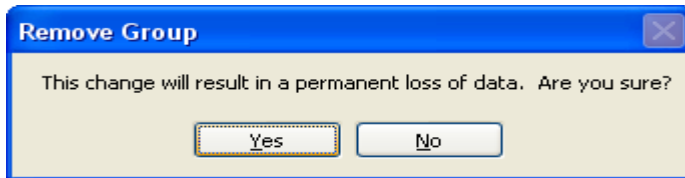
To edit a recipe group, click on the group name to edit from the list and click on the **Edit** buttons, or double-click the group name in the list. This will display the recipe group fields with the selected recipe group's information loaded. Modify the desired values and then click the **Save** button to save the changes, or click on the **Cancel** button to cancel the edit process.

To delete a recipe group name, click on the group name to delete and click on the **Delete** button. The user will have to confirm the delete.



Configurator – Confirm delete recipe group

Clicking on the **Yes** button will continue with the delete, while clicking on the **No** button will cancel the delete process. Since deleting a recipe group will result in the loss of data, the user will have to confirm the delete a second time.

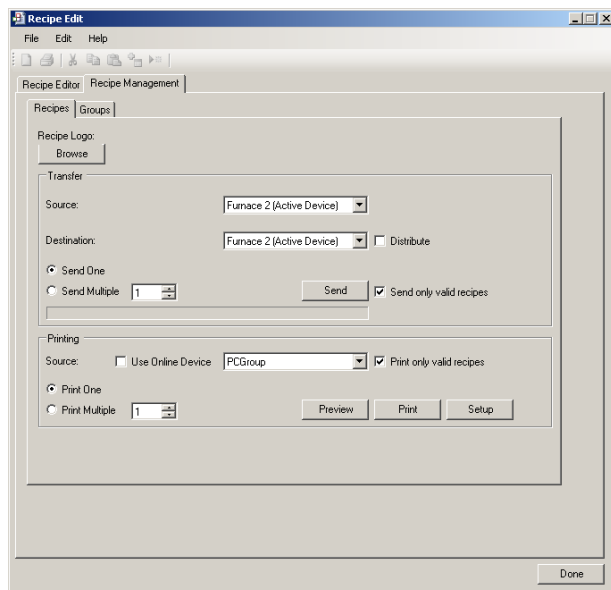


Configurator – Second confirm delete recipe group

Clicking on the **Yes** button will delete the recipe group, while clicking on the **No** button will cancel the delete process.

Clicking on the **Done** button will close the screen down.

Recipes Tab



Configurator – Recipe Management tab with Recipes tab

The “Recipe Logo:” Browse button will allow the user to select a bitmap (.bmp) image to act as a logo for the recipes. Clicking on the **Browse** button will open up a dialog box that will allow the user to browse to the desired picture.

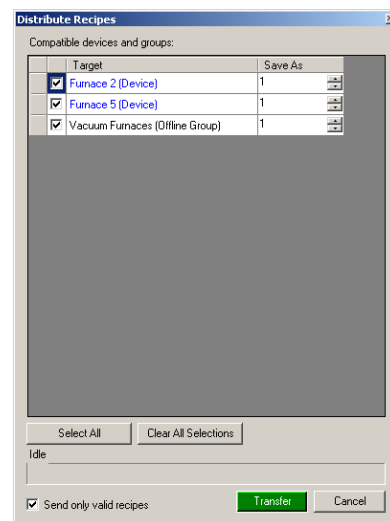
Transfer Section

The Transfer section will allow the user to transfer one or more recipes from one location to another. The “Source” field could either be the currently connected device (“Use Online Device”), or one of the offline groups (“PCGroup”). The “Destination” field could either be the currently connected device (“Use Online Device”), or one of the offline groups (“PCGroup”). If the Distribute checkbox is selected the destination field will be grayed out indicating that transfer will be made to multiple recipients.

The “Send One” option will send only one recipe from the source to the destination. The recipe to send will be based upon the numeric value within the box next to the “Send Multiple” option. The “Send Multiple” option will send any number of sequential recipes from the source to the destination. When the “Send Multiple” option is selected, there will be another numeric value box visible next to the first numeric value box. This second box will be invisible when the “Send One” option is selected. Once all of the required information is present (source, destination, recipe to send), clicking on the **Send** button will send the recipes.

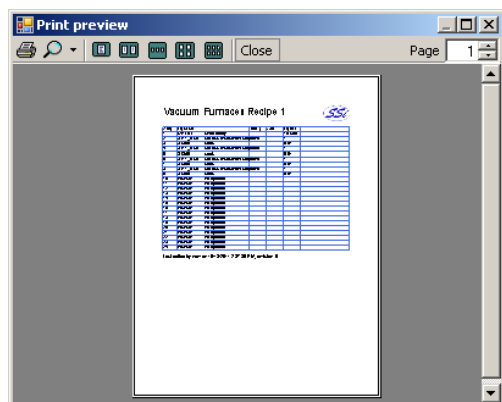
If the **Distribute** option has been selected a Distribute Recipes pick list will be presented. Select the desired destinations by clicking the checkbox and adjust the recipe number as required. When finished click Transfer and the distribution will commence.

The progress bar at the bottom of the section will update the send process. **Note: Transferring recipes from or to a controller may take a few minutes.**



Printing Section

The Printing section allows the user the ability to print out recipes. The "Source" field could either be the currently connected device ("Use Online Device"), or one of the offline groups ("PCGroup"). The "Print One" option will print only one recipe from the source. The recipe to print will be based upon the numeric value within the box next to the "Print Multiple" option. The "Print Multiple" option will print any number of sequential recipes from the source. When the "Print Multiple" option is selected, there will be another numeric value box visible next to the first numeric value box. This second box will be invisible when the "Print One" option is selected. Checking the Print Only Valid Recipes box prevents the printing of empty or corrupted recipe files.



Clicking on the **Print** button will display a print preview dialog, where the user will be able to view and/or print the recipes. Clicking on the **Setup** button will display a *Page Setup* screen, which will allow the user to set up the page settings for printing, as well as select the printer. **Note: Printing recipes from a controller may take a few minutes.**

Archiving Instrument Configurations and Recipes

Instrument configurations and recipes are stored in two directories. All instrument configurations are located in the C:\SSI\Devices directory and all recipes are located in the C:\SSI\Recipes directory. To backup these directories to a remote location or flash drive simply copy these two directories and then paste them to the desired location or drive.

Revision History

Rev.	Description	Date	MCO #
-	Initial Release	10/19/2011	2088