



ROOM DECONTAMINATION SYSTEM OPERATOR MANUAL

Model(s): RDS 6110



This document contains information which is proprietary to AeroClave, LLC. Accordingly, the information in this document shall not be disclosed outside the customer's organization and shall not be duplicated, used or disclosed – in whole or in part – for any purpose other than to evaluate this information. This restriction does not limit the customer's right to use information contained in this document if it is obtained from another source without restriction. The data subject to this restriction are contained in all sheets of this document.

This technical data is controlled under the Export Administration Regulations, and may not be exported to a Foreign Person, either in the U.S. or abroad, without the proper authorization of the U.S. Department of Commerce.



TABLE OF CONTENTS

1.0 INTRODUCTION 3
 1.1 Purpose3
 1.2 Terms/Definitions3
 1.3 Equipment and Media3

2.0 SAFETY GUIDELINES 4
 2.1 Operational Safety Guidelines4
 2.2 Operator Qualification5

3.0 PRODUCT DESCRIPTION 6
 3.1 Technical Specifications6

4.0 SET-UP/OPERATION..... 6
 4.1 Decontamination Set-up.....6
 4.2 Touchscreen Computer Controller Interface Set-up7
 4.3 Room Configuration Selection10
 4.4 Room Configuration Introduction.....12
 4.5 New Room Configuration Set-up (Main Heads).....14
 4.6 New Room Configuration Set-up (Remote Heads).....17
 4.7 Fogging Operation.....19
 4.8 APA Hand-Held Operation22

5.0 PREVENTATIVE MAINTENANCE.....24
 5.1 General Guidelines.....24
 5.2 Maintenance Steps.....24

6.0 ADMINISTRATOR.....25
 6.1 General Guidelines.....25
 6.2 Time Variables.....25
 6.3 Outlet Functionality.....26
 6.4 User Names and Passwords.....26
 6.5 Dose.....27

7.0 APPENDICES.....28
 7.1 Appendix A—Vital-Oxide MSDS.....28



1.0 INTRODUCTION

1.1 Purpose

The purpose of this manual, primarily, is to establish guidelines for the safe and effective operation of the RDS 6110 system. Secondly, it establishes a method for proper hand-application using the optional APA.

1.2 Terms/Definitions

APA: AeroClave Portable Applicator

Injection Phase: In this phase, the solution is aerosolized and applied evenly to the treatment area. A typical injection phase can last anywhere from 5-30 minutes, depending on the size of the treatment area.

Dwell Phase: Once an injection phase has completed, the treatment area is allowed to sit for a minimum of 10 minutes in a dwell period. The dwell period gives the aerosolized solution an opportunity to evenly distribute throughout the treatment area, ensuring complete coverage on all surfaces.

Aeration Phase: The aeration phase is the final stage when the treatment area is returned to its normal habitable state. Do not re-enter the area until the air is clear (minimum 20 minutes).

1.3 Equipment and Media

- RDS 6110 Unit
- Two (2) 10-Liter AeroClave Solution Tanks
- AeroClave Approved Disinfectant Solution (Purchased separately)
- Two (2) APA(s) (optional)
- Two (2) APA Tripod(s) (optional)
- Barcode Scanner (optional)



2.0 SAFETY GUIDELINES

READ AND UNDERSTAND THIS OPERATOR MANUAL PRIOR TO USE OF THE SYSTEM. STRICTLY FOLLOW ALL SAFETY INSTRUCTIONS IN THIS OPERATOR MANUAL PRIOR TO, DURING, AND AFTER USE OF THE SYSTEM. SYSTEM OPERATORS MUST COMPLY WITH ALL SAFETY PRECAUTIONS MENTIONED IN THIS SECTION.

Use only AeroClave-approved solutions when operating this equipment. Failure to do so will result in voiding of warranty and may result in INJURY or DEATH. Follow all label instructions on approved solutions.

2.1 Operational Safety Guidelines

- 2.1.1 Only trained and qualified personnel should operate the RDS 6110 unit.
- 2.1.2 Levels of training:
 - a) Demonstration Training: individuals who will be operating the RDS 6110 unit for demonstration purposes only, using only de-ionized or distilled water as a surrogate solution, must read and understand this document.
 - b) RDS 6110 Operator Training: individuals who will be operating the RDS 6110 unit for facility or asset decontamination using AeroClave solution must be trained and qualified. See the requirements in Section 2.2 Operator Qualifications.
- 2.1.3 Only an authorized AeroClave service technician may repair or maintain this equipment.
- 2.1.4 The RDS 6110 unit is designed to operate on a standard 120V, 15-amp grounded power receptacle. To avoid electrical hazards or damage to the machine, this minimum power requirement must be met.
- 2.1.5 The fine aerosol generated by the RDS 6110 unit may activate smoke detectors. Optical based smoke sensor systems are typically the most susceptible to false alarms. The facility or asset being treated must be evaluated on a case-by-case basis for this. Appropriate measures must be taken prior to treatment.
- 2.1.6 Review and follow all labels and warnings marked on AeroClave products.
- 2.1.7 **Before plugging in power cord**, make sure the trigger on the APA, if the APA is connected, is not engaged.
- 2.1.8 It is recommended, for comfort, that operator don a minimum level of PPE consisting of, at least, an N95 mask prior to APA operation.



- 2.1.9 **Do not** modify the power cord provided. This machine must be properly grounded to ensure safety of end users. Improper connection of the equipment can result in mechanical failure or electrical shock.
- 2.1.10 **Do not** put fingers, tools, or other foreign objects into spray area. Improper use may result in severe pain, injury or death.
- 2.1.11 Risk of injury including shock, death, or burn may occur if improperly handled.
- 2.1.12 Only use AeroClave-approved solutions for decontamination. Use of other solutions pose risk of injury, machine failure, and/or unintended results, and is prohibited.
- 2.1.13 Use only de-ionized or distilled water to flush, demonstrate, or practice with the system.
- 2.1.14 Prior to transport or storage of the machine, remove solution tank and transport or store separate from machine.
- 2.1.15 Read and understand the AeroClave disinfectant solution MSDS and retain the document in an employee accessible location.

2.2 Operator Qualification

- 2.2.1 The operator must be trained and qualified to this manual or equivalent preceding manual. Hands-on training in the operation of the RDS 6110 unit is recommended.
- 2.2.2 The operator must review and understand the AeroClave product manual and complete the necessary training given by qualified AeroClave personnel.



3.0 PRODUCT DESCRIPTION

3.1 Technical Specifications

Table 3: Technical Specifications for RDS 6110

Model: RDS 6110	SPECIFICATIONS
Voltage	110VAC
Dimensions	46” H x 20” W x 25” D
Total Weight	154 lbs.
# of Static Heads	4
# of SmartPorts	2
Bottle(s)/Reservoir(s)	2.64 Gal, 10 Liter

4.0 SET-UP/OPERATION

4.1 Decontamination Set-up

4.1.1 Survey the area being decontaminated. Be sure to note the following:

- a) Dimensions: Length, width, and height.
- b) Location of supply and return vents and any other air entry or egress paths, door jambs, windows, bathroom vents, hoods etc.
- c) Locations of equipment and furniture.

4.1.2 Determine personnel exposure controls. Controls must be in place to prevent unintentional personnel exposures. Controls can be any or a combination of:

- a) Administrative: where non-decontamination personnel are removed from the area. Shutting down the HVAC system to the area (if possible) is the preferred isolation approach.
- b) Engineering: where mechanical isolation strategies are employed. Isolation may be achieved by sealing with tape and plastic.

- 4.1.3 Determine ventilation approach. Venting to atmosphere is the preferred method. Alternatively, ventilation may be performed using HVAC, exhaust, etc.
- 4.1.4 If efficacy testing is being performed, locations and type of biologic indicator should be noted.
- 4.1.5 Prior to treatment, verify proper time for treatment by inputting the dimensions of the treatment area into the cubic footage calculator on the configuration screen.
- 4.1.6 The RDS 6110 unit uses a touchscreen computer controller to operate. Use of this controller is covered in the following sections.
- 4.1.7 Once injection time has been input, collect the required equipment and materials needed in Section 1.3.
- 4.1.8 The area is prepared. All drawers, cabinet doors, and bathroom doors will be opened.
- 4.1.9 The operator puts exposure controls and ventilation approach in place.

4.2 Touchscreen Computer Controller Interface Set-up

- 4.2.1 The RDS 6110 unit settings are prepared using a touchscreen computer controller interface. The interface is located on the front of the RDS 6110 unit.
- 4.2.2 The touchscreen computer controller interface will activate when the unit is connected to power. Once the interface has booted up, the main screen will appear. (Figure 1).



FIGURE 1

4.2.3 Press the “Get Started” button to sign in to the RDS 6110. (Figure 2)



FIGURE 2

4.2.4 You are required to sign in to the RDS 6110 with a password assigned by your administrator. Enter your password using the number pad then press the “Start” button to complete your sign in. (Figure 3)

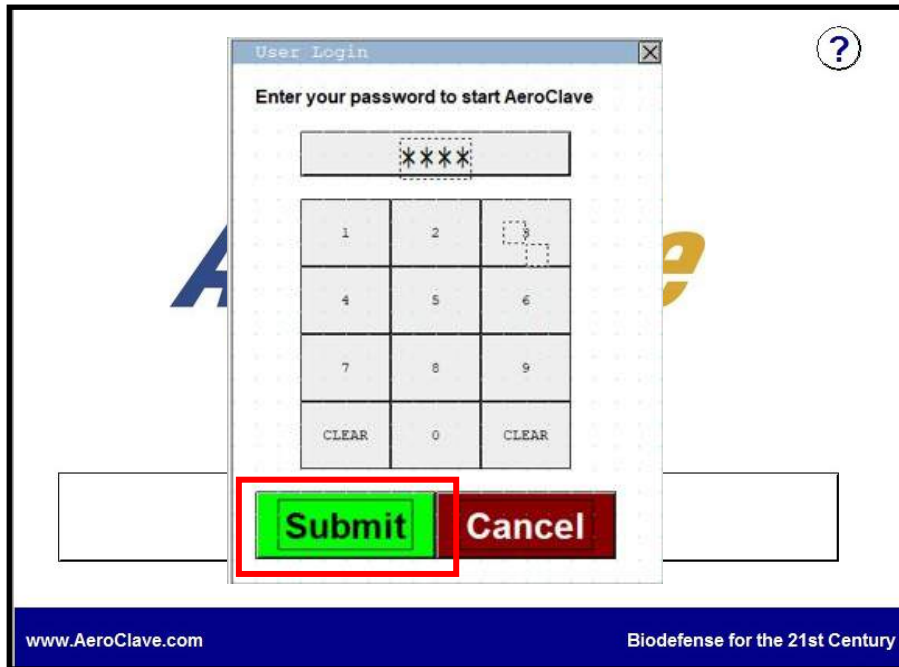


FIGURE 3

- 4.2.5 If your password fails, you will be notified. Please try to enter it again. If it continues to fail, please contact your administrator.
- 4.2.6 After successfully signing in to the RDS 6110, you will be given access to the “Main Menu” screen (Figure 4). The following buttons will appear onscreen:
 - A. Choose from list: To access the configuration of a room that has already been entered, you may select it from a list.
 - B. Scan barcode now: To access the configuration of a room that has already been entered, you may scan the room’s barcode, if a barcode has been associated with that room.
 - C. New configuration: Click here to create a brand new room configuration or to decontaminate a room that has not been previously saved.
 - D. AeroClave Config: RDS 6110 general configuration that can only be accessed by the AeroClave Administrator.

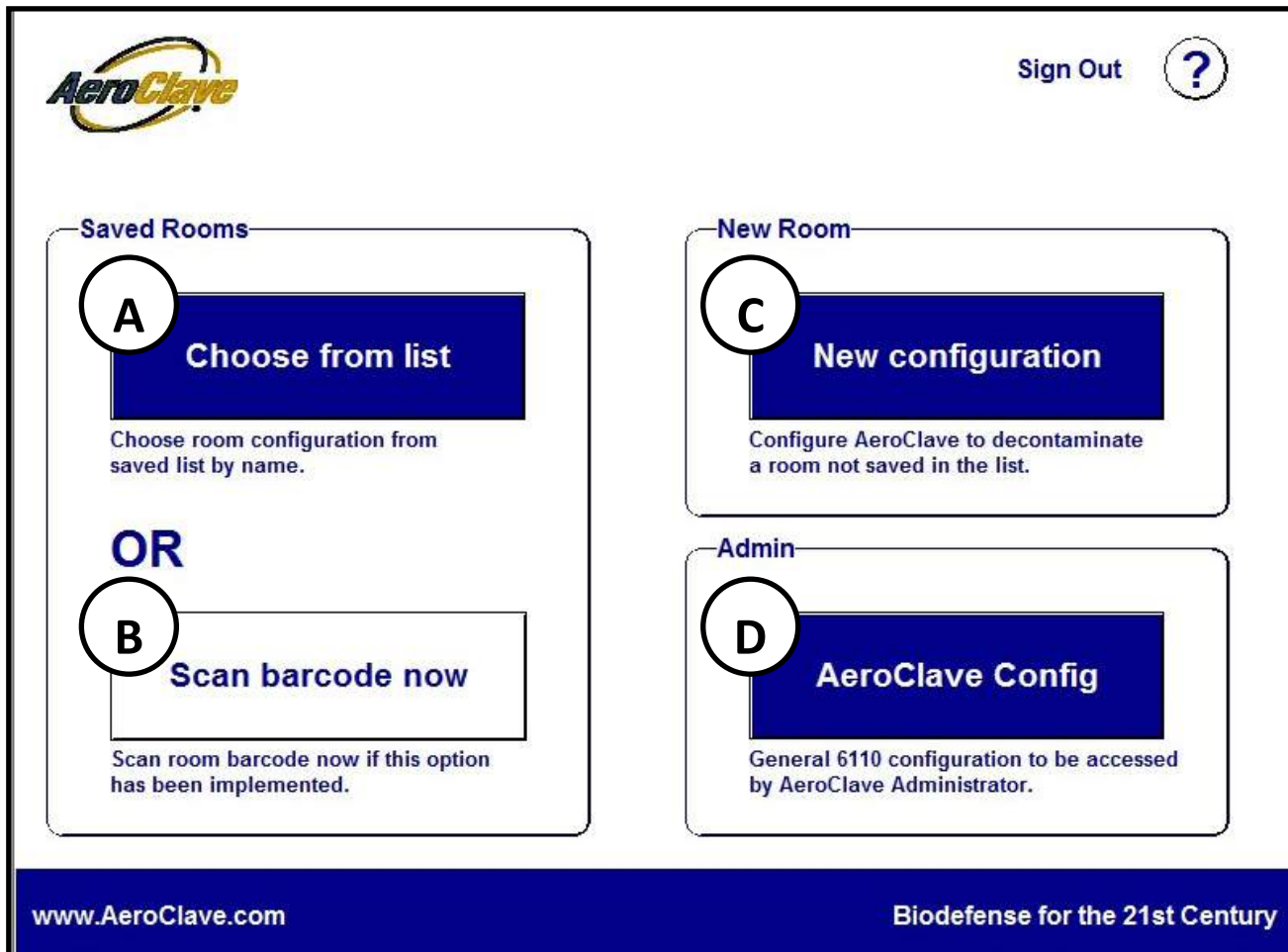


FIGURE 4

4.3 Room Configuration Selection

- 4.3.1 As discussed in Section 4.2.6, there are three ways to begin a decontamination cycle:
- A. Choose from list
 - B. Scan barcode now
 - C. New configuration
- 4.3.2 Press the “Choose from list” button to decontaminate a room that has already had its configuration saved into the system. Pressing this button will access the room list seen below. (Figure 5)

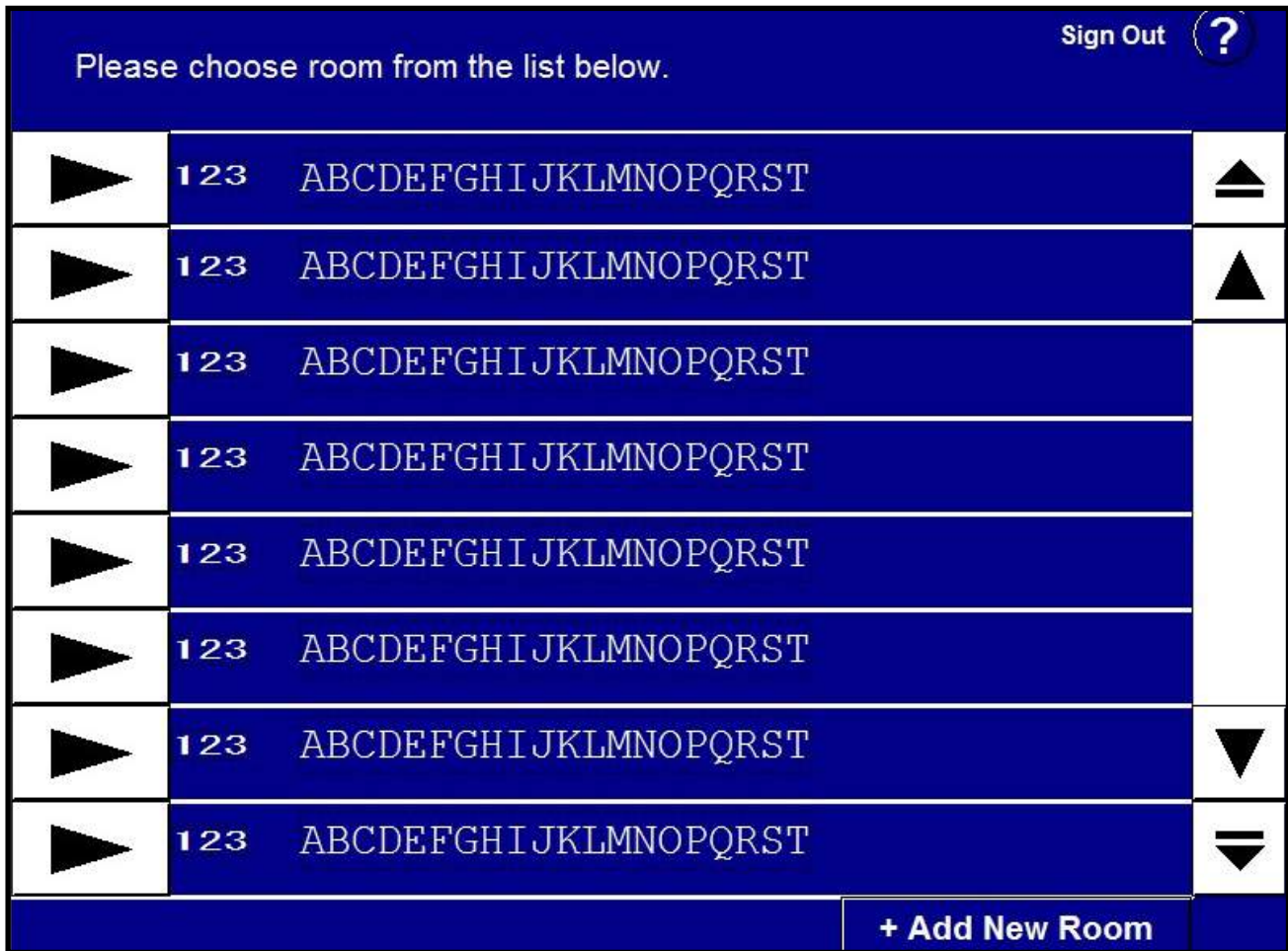



FIGURE 5

- 4.3.3 Press on the  button next to the desired room to access that room's configuration/run screen.
- 4.3.4 To decontaminate a room that has already had its configuration saved into the system AND has had a barcode assigned to it, scan the barcode using the barcode scanner (if included) from the “Main Menu” screen (Figure 4) to access that room’s configuration/run screen.

- 4.3.5 Press the “New configuration” button to create a brand new room configuration or to perform a one-time decontamination of a room that has not been previously saved.
- 4.3.6 After selecting any of the three options listed in Section 4.3.1, you will be presented with the following Configuration/Run screen. (Figure 6).



FIGURE 6

- 4.3.7 If you have reached this screen by pressing the “New configuration” button, the steps for creating a new room configuration will be listed in Section 4.4. If you have reached this screen by either pressing the “Choose from list” button OR by scanning a barcode, your room configuration is already set and you are ready to begin a decontamination cycle, which will be detailed in Section 4.6.

4.4 Room Configuration Introduction

4.4.1 This section will detail how to configure a brand new room for decontamination. Below is an example of a blank room configuration screen. (Figure 7)

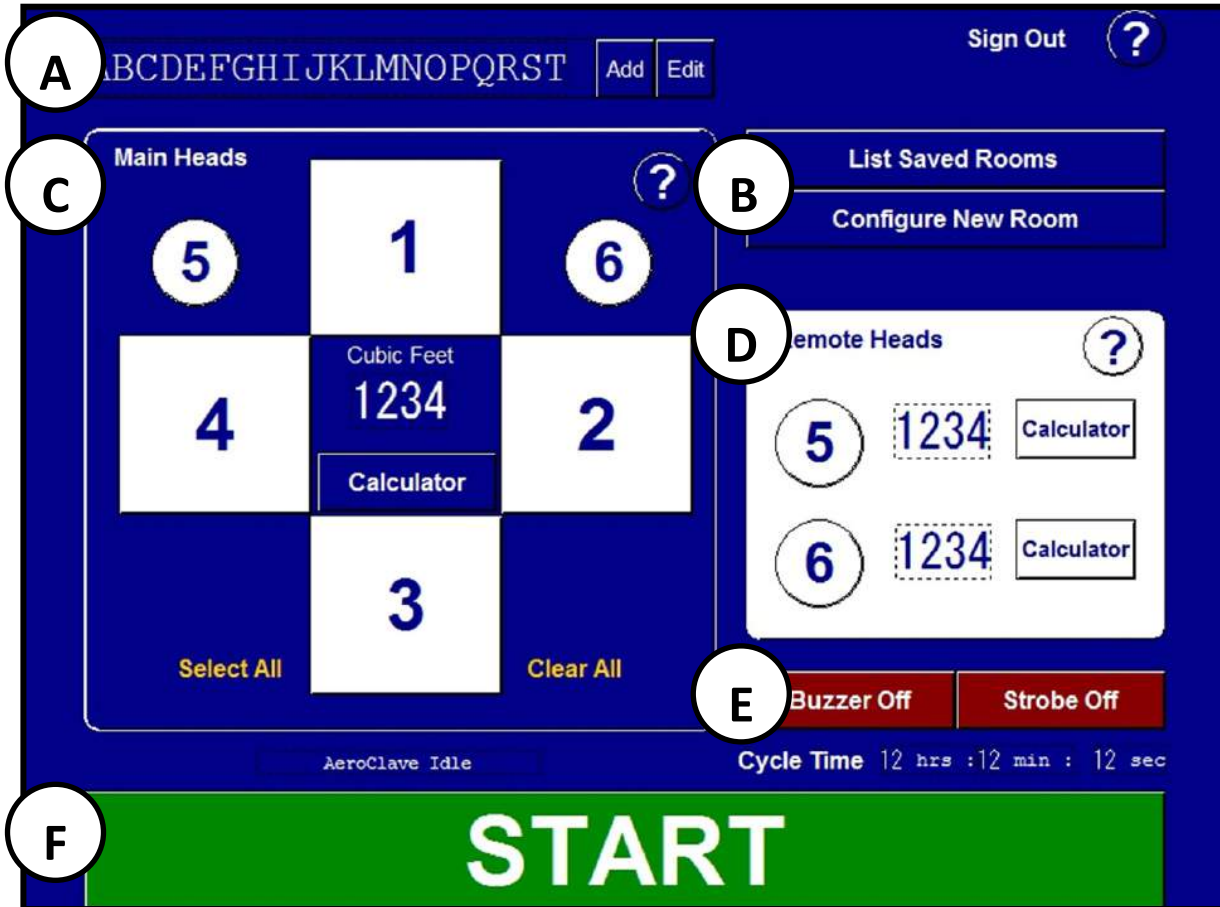


FIGURE 7

4.4.2. The following buttons and boxes will be used to determine the room configuration:

A. Room Name box:

- Press the “Add” button to input a name for the room and/or associate a barcode to the room.
- Press the “Edit” button to make changes to the room name or barcode.

B. List Saved Rooms button:

- To create a new room configuration using an already saved room configuration as a template, access preconfigured rooms by pressing this button. This will take you to room list screen (Section 4.3.2). Select a room configuration from the list and then rename it using the “Add” button. This will create a new room with the same configuration.

Configure New Room button:

- Press this button to bring up a blank room configuration screen (Figure 7). Any unsaved changes will be lost.

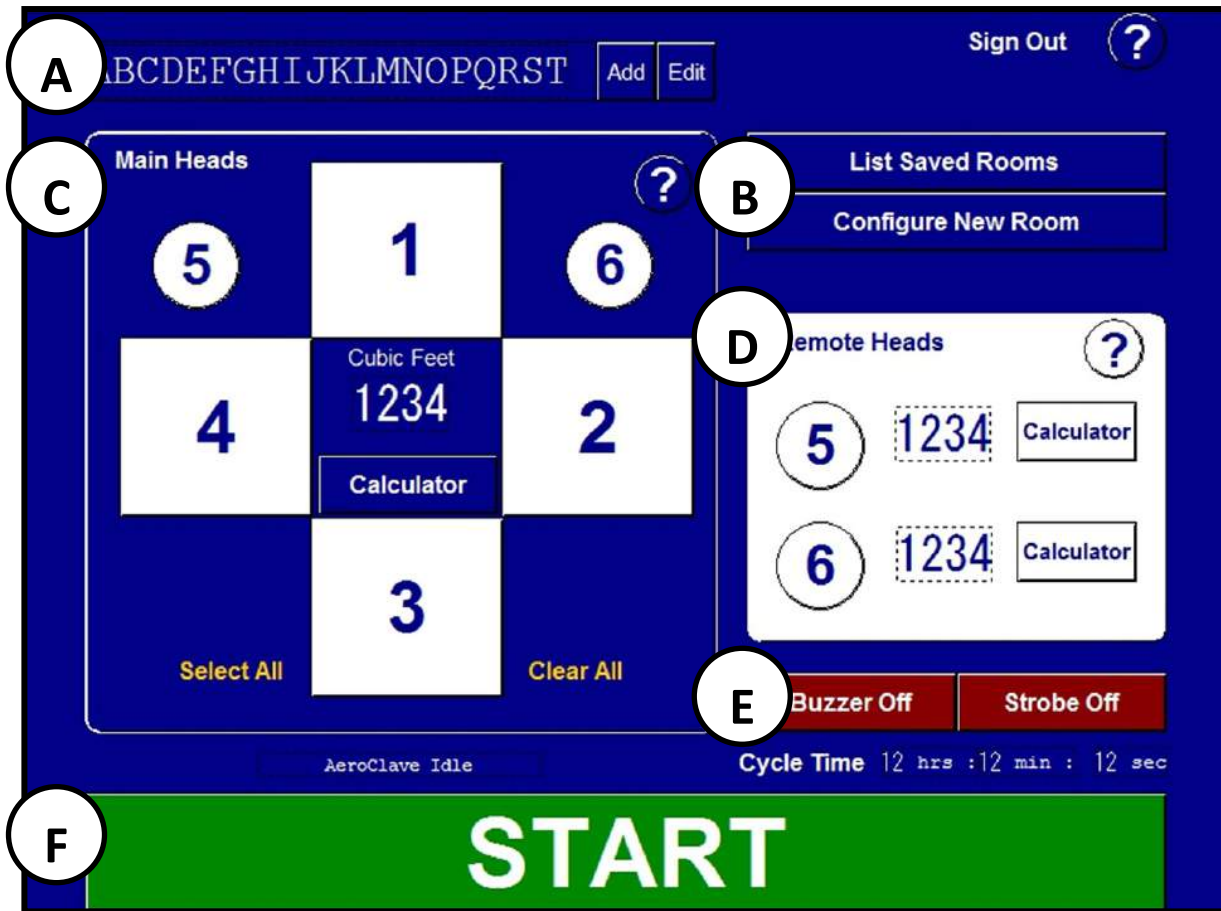


FIGURE 7

4.4.2 (cont.) The following buttons and boxes will be used to determine the room configuration:

- C. Main Heads box:
 - This box is used to calculate the room dimensions and select which fogging heads will operate. This box will be discussed in further detail in Section 4.5.
- D. Remote Heads box:
 - This box is used to independently configure the use of remote fogging heads. This box will be discussed in further detail in Section 4.6.
- E. Warning buttons:
 - Press the “Buzzer On/Off” button to toggle the audible warning buzzer on or off.
 - Press the “Strobe On/Off” button to toggle the visual warning strobe on or off.
- F. Start button:
 - Once you are ready to start a decontamination cycle, press the green “Start” button to initiate a decontamination cycle.

4.5 New Room Configuration Set-up (Main Heads)

4.5.1 This section will detail using the “Main Heads” box (Figure 8) to configure a room in the system in preparation for a decontamination cycle.

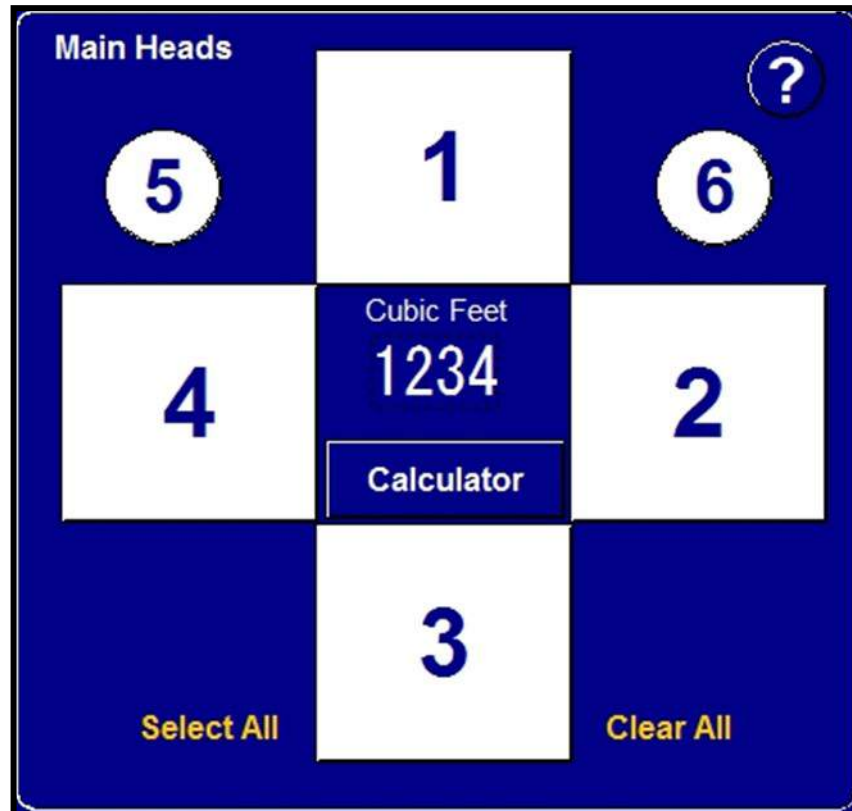


FIGURE 8

- 4.5.2 All heads chosen in the “Main Heads” box will run as a group for the time calculated from the cubic feet.
- 4.5.3 The RDS 6110 has the capability to operate up to six fogging heads at one time.
- 4.5.4 Main fixed heads are labeled 1 through 4 and are positioned on top of the unit, with head number 1 located farthest away from the operator.
- 4.5.5 Heads 5 & 6 are SmartPorts located on the back of the unit. APA’s can be connected to these SmartPorts to be used as fogging heads.
- 4.5.6 To select a head, simply press the corresponding head button. When selected, the color of the head’s icon will be yellow.
- 4.5.7 To select all six heads, press the “Select All” button, located to the left of the head 3 button.
- 4.5.8 To clear all selected heads, press the “Clear All” button, located to the right of the head 3 button.
- 4.5.9 The volume of the room must be entered into the system to determine the length of the decontamination cycle.

- 4.5.10 If you already know the cubic volume of the room, you may enter it directly into the system by tapping the number under “Cubic Feet”, located in the center of the “Main Head” box.
- 4.5.11 Tapping the number will cause a number pad to appear. Enter the cubic volume using the number pad. Press “Enter” to confirm the cubic footage. (Figure 9)



FIGURE 9

- 4.5.12 If you do NOT know the volume of the room, you can use the onscreen calculator (Figure 10). Access it by tapping the “Calculator” button in the center of the “Main Head” box.
- 4.5.13 Enter the dimensions of the room by tapping on the corresponding dimension and using the number pad. Once you have entered all three dimensions, press “Calculate”.

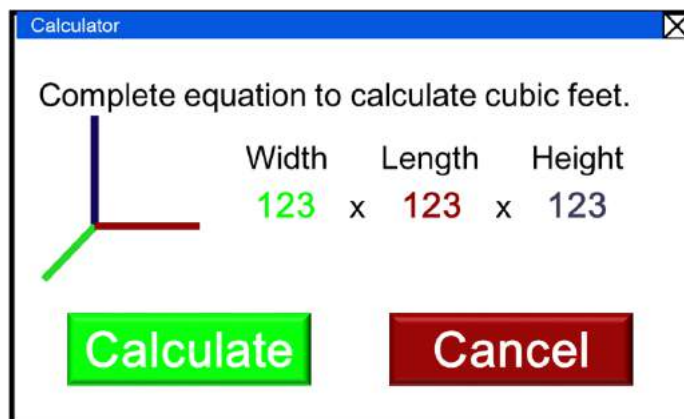


FIGURE 10

- 4.5.14 Once the cubic volume of the room has been entered, take note of the estimated cycle time. This will be shown in the lower right corner of the screen (Figure 11). This time estimate encompasses the entire decontamination cycle from start to finish.



FIGURE 11

- 4.5.15 There is an audible warning buzzer and a visual strobe that can be activated or deactivated prior to starting a decontamination cycle. To toggle these options, press the buttons located in the lower right corner of the screen. (Figure 12)



FIGURE 12

- 4.5.16 If you do NOT need to configure any remote heads, and are ready to begin a decontamination cycle, you may jump to Section 4.7. If you DO need to configure remote heads, proceed to Section 4.6.

4.6 New Room Configuration Set-up (Remote Heads)

- 4.6.1 This section will detail using the “Remote Heads” box (Figure 13) to configure a room in the system in preparation for a decontamination cycle. This capability provides you the ability to individually configure up to two remote heads to fog for specific times.

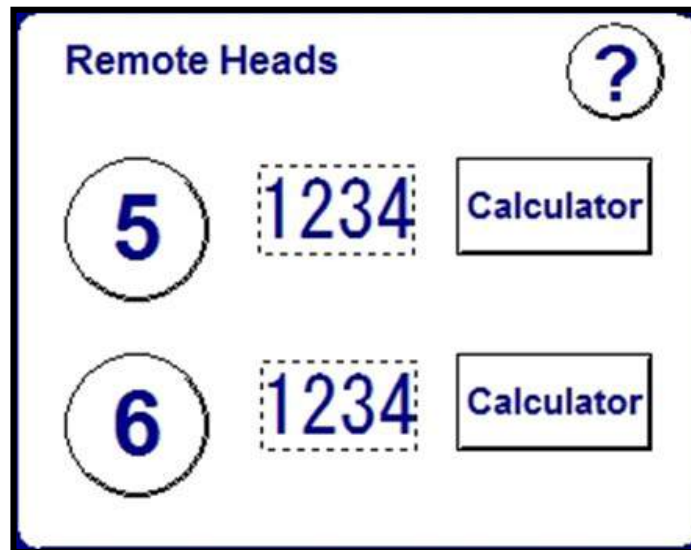


FIGURE 13

- 4.6.2 All heads chosen in the “Remote Heads” box will run independently of each other and of the heads selected in the “Main Heads” box for the time calculated from the cubic feet entered.
- 4.6.3 The RDS 6110 has the capability to operate up to six fogging heads at one time.
- 4.6.4 Main fixed heads are labeled 1 through 4 and are positioned on top of the unit, with head number 1 located farthest away from the operator.
- 4.6.5 Heads 5 & 6 are SmartPorts located on the back of the unit. APA’s can be connected to these SmartPorts to be used as fogging heads.
- 4.6.6 To select a head, simply press the corresponding head button. When selected, the color of the head’s icon will be yellow.
- 4.6.7 The volume of the room must be entered into the system to determine the length of the decontamination cycle.
- 4.6.8 If you already know the cubic volume of the room, you may enter it directly into the system by tapping the number next to the “Remote Head” button that you are configuring.
- 4.6.9 Tapping the number will cause a number pad to appear (Figure 9). Enter the cubic volume using the number pad. Press “Enter” to confirm to the cubic footage.
- 4.6.10 If you do NOT know the volume of the room, you can use the onscreen calculator (Figure 10). Access it by tapping the “Calculator” button to the right of the “Remote Head” button that you are configuring.
- 4.6.11 Enter the dimensions of the room by tapping on the corresponding dimension and using the number pad. Once you have entered all three dimensions, press “Calculate”.

- 4.6.12 Once the cubic volume of the room has been entered, take note of the estimated cycle time. This will be shown in the lower right corner of the screen (Figure 14). This time estimate encompasses the entire decontamination cycle from start to finish.



FIGURE 14

- 4.6.13 There is an audible warning buzzer and a visual strobe that can be activated or deactivated prior to starting a decontamination cycle. To toggle these options, press the buttons located in the lower right corner of the screen. (Figure 15)



FIGURE 15

- 4.6.14 If you are now ready to begin a decontamination cycle, please proceed to Section 4.7.

4.7 Fogging Operation

- 4.7.1 Once all treatment area set-up and room configuration criteria have been met, you may now initiate a fogging decontamination cycle.
- 4.7.2 The RDS 6110 allows the operator to treat an enclosed area in an automated fogging method. This method works best when HVAC and ventilation have been isolated.
- 4.7.3 Prior to initiating the decontamination cycle, position the RDS 6110 unit in the treatment area. The ideal unit location is where the unit is placed in the center of the treatment area.
- 4.7.4 If necessary, the unit may be placed elsewhere when attempting to avoid directly spraying disinfectant onto a surface or object, with the goal of having the disinfectant directed as closely as possible to the center of the treatment area.
- 4.7.5 If positioning the unit and/or direction of the spray becomes difficult due to the room configuration and/or objects within the treatment area, it may be necessary to toggle on or off fogging heads. The procedure for doing this can be found in either Section 4.5 or Section 4.6.
- 4.7.6 After the unit has been positioned, you may now press the green “START” button to begin the decontamination cycle (Figure 16).

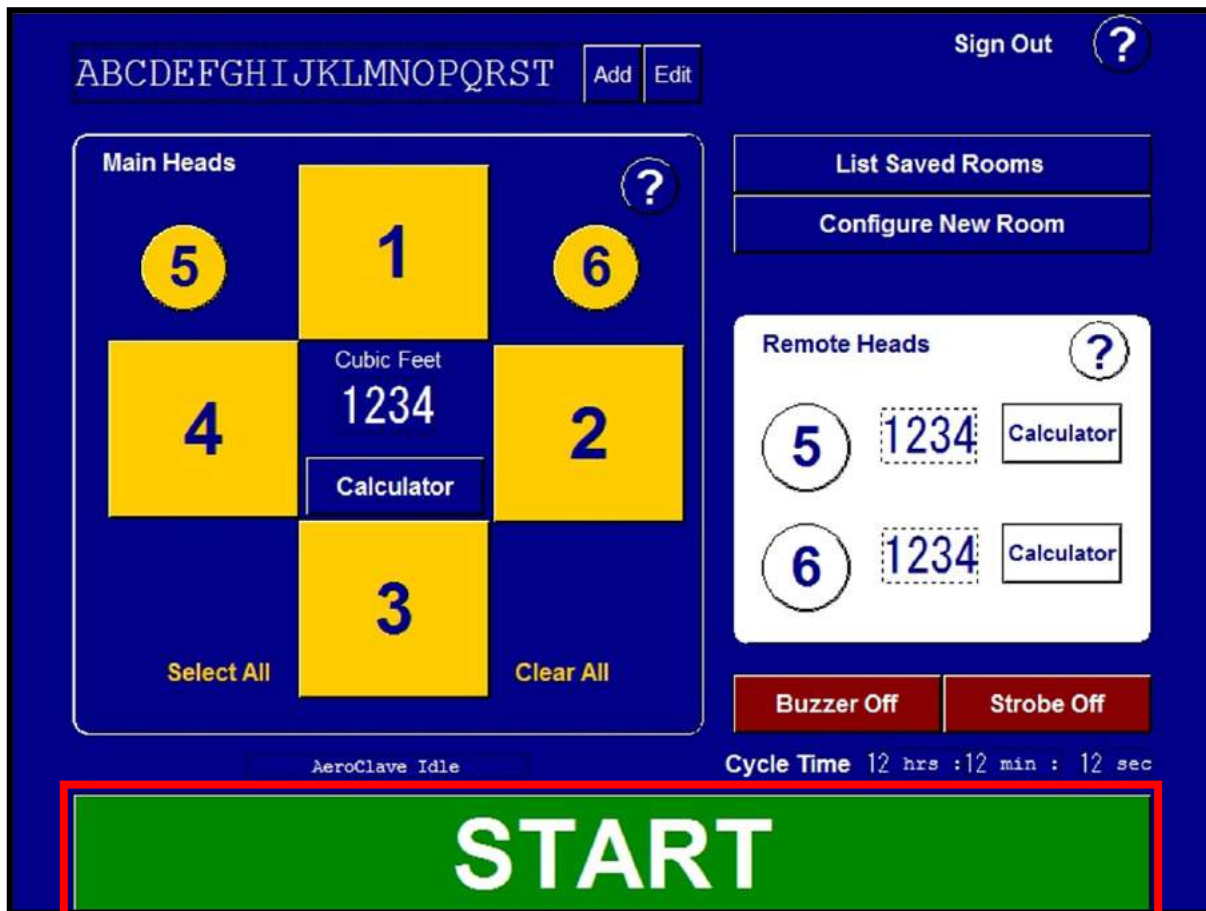


FIGURE 16

- 4.7.7 After you have pushed the green “START” button, three things will immediately occur:
1. If the audible warning buzzer is toggled on, it will begin to sound.
 2. If the visual warning strobe is toggled on, it will begin to flash.
 3. The screen will change to a solid red screen with the words “Emergency Stop” displayed prominently in the center (Figure 17).



FIGURE 17

- 4.7.8 Once the screen has switched to “Emergency Stop,” you can tap on any part of the screen to terminate the decontamination cycle and return to the room configuration screen.
- 4.7.9 At this point, the unit has switched into the warning phase of the cycle. You may now leave the treatment area, ensuring that you have closed the door behind you.
- NOTE:** The warning phase time is a variable that can be changed by an administrator.
- 4.7.10 Once the warning phase completes, the unit will begin to dispense the prescribed amount of disinfectant into the treatment area. When this phase is complete the unit will cease dispensing.



4.7.11 Once the unit has ceased dispensing, the cycle will now move into the dwell phase. The dwell phase is the period of time when the disinfectant achieves the necessary contact time on the treatment area surfaces. Unless otherwise noted, the dwell phase is a minimum of 10 minutes.

NOTE: The dwell phase time is a variable that can be changed by an administrator.

4.7.12 After completion of the dwell phase, the cycle moves into the final phase known as aeration. Ventilate the area by re-energizing HVAC, opening doors and windows, etc.. Do not re-enter area until air is clear (minimum 20 minutes to re-entry) or until either the warning buzzer or strobe turns off (whichever happens last). At this point the touchscreen will return to the room configuration screen.

NOTE: The aeration phase time is a variable that can be changed by an administrator. This variable controls how long the buzzer and strobe will remain active at the end of a cycle. Changing this variable may be helpful in controlling unauthorized entry into the treatment area.

4.7.13 You may now resume normal occupation of the treatment area.

4.8 APA Hand-Held Operation



FIGURE 18

- 4.8.1 The APA (Figure 18) in a hand-held mode may be used effectively with HVAC and other ventilation systems left on. If ventilation systems are to be left on, controls must be put in place to prevent unintentional personnel exposures as described in section 4.1.2.
- 4.8.2 It is recommended, for comfort, that the operator don a minimum level of PPE consisting of, at least, an N95 mask prior to APA operation.
- 4.8.3 Plug the APA into one of the SmartPorts located on the back of the RDS 6110 unit.
- 4.8.4 To activate the hand-held APA, “pull and hold” the trigger on the APA handle. The device will cycle on in the following order: 1) Air flow 2) Liquid flow.
- NOTE:** If liquid line is empty, it requires around one minute to fill. Decontamination activity can begin once a consistent steady aerosol is observed.
- 4.8.5 To turn off the hand-held APA, “release” the trigger on the APA handle. The device will cycle off in the following order: 1) Liquid flow 2) Air flow.
- 4.8.6 Always keep the nozzle of the APA pointed away from you or anyone else.
- 4.8.7 Application of the solution is left to the discretion of the operator. It should be adjusted appropriately for the situation at hand. A distance of approximately 24”-36” should be kept from the area being decontaminated to avoid excessive wetting.



- 4.8.8 Similar to spray painting, broad even strokes, applied directly to the surface should be used.
- 4.8.9 The objective to spraying is to deposit a thin, even layer of material on the surface being decontaminated. However, the hand-held APA affords the ability to concentrate the solution on known, highly contaminated areas such as door handles, keyboards, toilet seats etc.
- 4.8.10 It is recommended that operators practice with distilled or deionized water to become familiar with the operation of the device and the characteristics of the aerosol spray prior to performing actual field decontamination activities.
- 4.8.11 After application, continue to ventilate the area.



5.0 PREVENTATIVE MAINTENANCE

The RDS 6110, APA, and ADP Ports must be flushed with distilled water on a monthly basis to ensure proper operation and a long life. The length of time necessary to fully flush the system is dependent on the number of nozzles installed inside the treatment area. After flushing the system, you should re-prime the system by switching the reservoir back to Vital Oxide and running for the prescribed time. Please refer to Table 1 for Flush and Re-Prime times. You must follow the following steps to flush the system correctly.

5.1 General Guidelines

- 5.1.1 Flush RDS 6110 completely on a monthly basis.
- 5.1.2 Use **only** distilled or deionized water when flushing the RDS 6110.
- 5.1.3 After the maintenance flush, re-prime the RDS 6110 with disinfectant.

5.2 Maintenance Steps

- 5.2.1 Replace on-board operating reservoir with the provided maintenance reservoir.
- 5.2.2 Ensure that the maintenance reservoir is filled with **distilled or deionized water only**.
- 5.2.3 Start the operation of the RDS 6110 unit as normal.
- 5.2.4 Use the touchscreen, or APA trigger, to stop the unit after it has run for the prescribed Flush Time (see Table 1).
NOTE: If this RDS 6110 will be used to flush an APA or ADP Port, repeat steps 5.2.2 - 5.2.4 for those accessories prior to moving onto step 5.2.5.
- 5.2.5 Replace the on-board operating reservoir filled with Vital Oxide.
- 5.2.6 Start the operation of the RDS 6110 unit as normal.
- 5.2.7 Use the touchscreen, or APA trigger, to stop the unit after it has run for the prescribed Re-Prime Time (see Table 1).
NOTE: If this RDS 6110 will be used to re-prime an APA or ADP Port, repeat steps 5.2.5 - 5.2.7 for those accessories.

Table 1

# of Nozzles	Flush Time	Re-Prime Time
One (APA or ADP Port)	2 minutes	1 minute
Two or more (RDS 6110, APA, or ADP Port)	3 minutes	2 minutes

6.0 ADMINISTRATOR

6.1 General Guidelines

NOTE: All changes are immediately saved.

- 6.1.1 Only a user with Administrator rights may access the AeroClave Config area from the main screen. The RDS 6110 is shipped with an Admin user with a **default password 1234**.
- 6.1.2 It is highly recommended that you assign a new password to this user.
- 6.1.3 Press the AeroClave Config button on the main screen to access the Admin Config dialog.

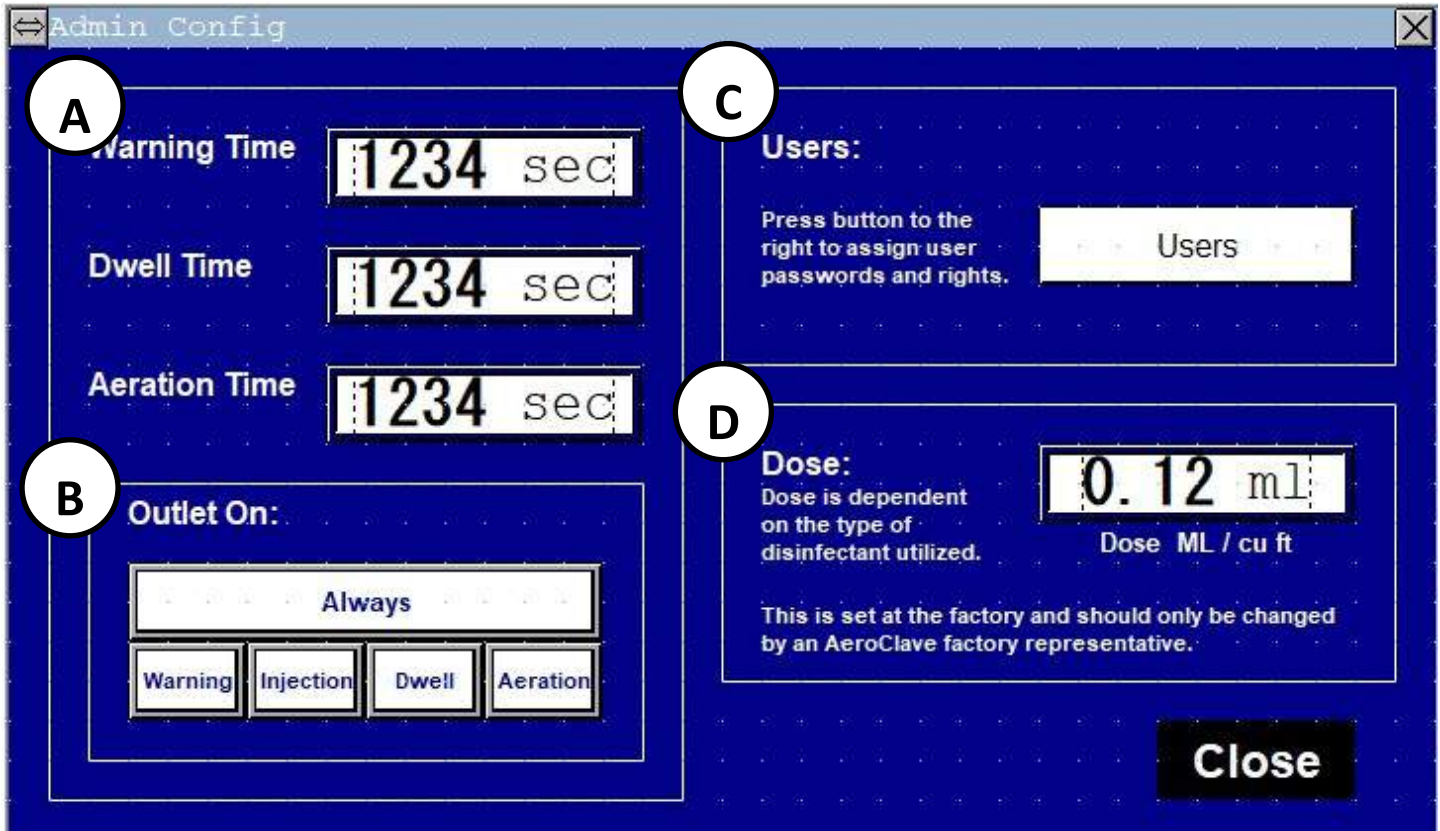


Figure 19

6.2 Time Variables - Labeled A

Warning Time - the time that the 6110 will wait before starting the injection. This is helpful to allow the operator to exit the room prior to the cycle starting. Default is 30 seconds.

Dwell Time - Time to wait once the injection is completed, the treatment area is allowed to sit for a minimum of 600 seconds (10 minutes). The dwell period gives the aerosolized solution an opportunity to evenly distribute throughout the treatment area, ensuring complete coverage on all surfaces.

Aeration Time - The aeration phase is the final stage when the treatment area is returned to its normal habitable state. This time is also set in seconds.

6.3 Outlet Functionality

A 110v outlet is located on the back of the RDS 6110. This is provided so the operator can connect a fan to help aerate the room if necessary, but you may wish to use the outlet for other purposes. For additional functionality, the outlet may be turned on during the following timeframes:

Always – the outlet is on when the machine is plugged in. Default.

Warning - the outlet is only on during the Warning Time.

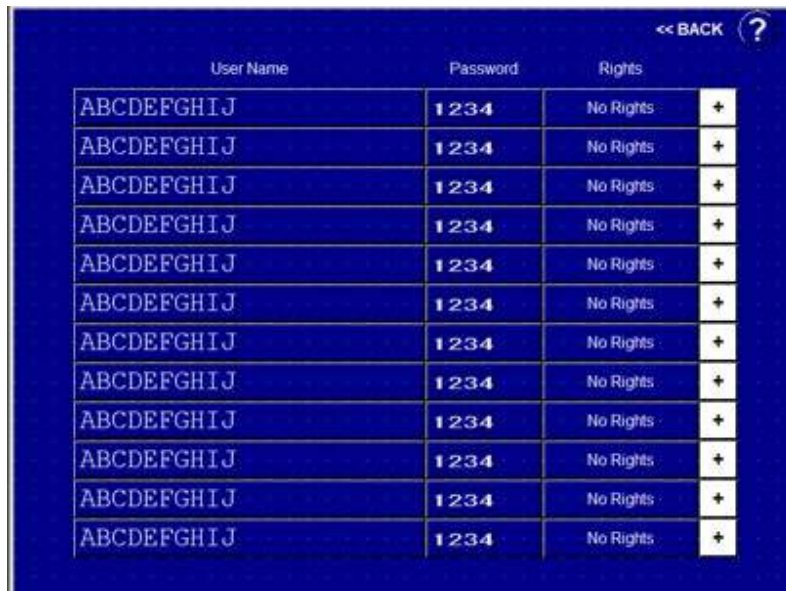
Injection - the outlet is only on during the Injection Time.

Dwell- the outlet is only on during the Dwell Time.

Aeration - the outlet is only on during the Aeration Time.

6.4 User Names and Passwords

To add and edit users press the Users button labeled C in Figure 19. The screen illustrated below will be displayed to allow the management of up to 12 users.



User Name	Password	Rights	
ABCDEFGHIJ	1234	No Rights	+
ABCDEFGHIJ	1234	No Rights	+
ABCDEFGHIJ	1234	No Rights	+
ABCDEFGHIJ	1234	No Rights	+
ABCDEFGHIJ	1234	No Rights	+
ABCDEFGHIJ	1234	No Rights	+
ABCDEFGHIJ	1234	No Rights	+
ABCDEFGHIJ	1234	No Rights	+
ABCDEFGHIJ	1234	No Rights	+
ABCDEFGHIJ	1234	No Rights	+
ABCDEFGHIJ	1234	No Rights	+
ABCDEFGHIJ	1234	No Rights	+

Figure 20

- 1) Press the text box in the column labeled User Name to access the keyboard.
- 2) Enter the user name.
- 3) Enter the password. This must be a number up to 4 digits and must be unique.
- 4) Use the + button to assign rights.
 - No Rights - user is disabled.
 - User Only - can only access saved rooms and run ad-hoc.
 - Save/Edit - user can save and edit room configurations.
 - Admin - full control. **Always ensure that you have at least one Admin.**



6.5 Dose

The dose is the milliliters of fluid that the system will deliver per cubic foot. The dose is dependent on the type of disinfectant you are utilizing.

NOTE: This is a factory setting and should only be changed by an AeroClave factory representative. Changing this variable will alter the efficacy of the process.



7.0 APPENDIX

7.1 Appendix-A: Vital Oxide MSDS

Material Safety Data Sheet: Vital Oxide

MSDS No: VO020215

Section 1: Product and Company Identification

Product Name Vital Oxide

Aqueous Oxidant

Manufacturer/Distributor Vital Solutions, LLC.

PO Box 9932

West Palm Beach, FL 33419

Phone Numbers

Product Information: (561) 848-1717

Medical Emergency: (800) 222-1222

Section 2: Composition/ Information on Ingredients

Ingredients CAS Number Wt %

Oxychlorine Compounds Mixture 0.200

n-Alkyl Dimethyl Benzyl Ammonium Chloride 68391-01-5 0.125

n-Alkyl Dimethyl Ethyl benzyl Ammonium Chloride 85409-23-0 0.125

Inert Ingredients Mixture 99.55

At these concentrations none of the ingredients are known to pose any hazards to human health.

Section 3: Hazards Identification

Emergency Overview

Colorless liquid with mild fresh odor. Avoid contact with eyes. Keep out of reach of children.

HMIS Rating: Health: 0 Flammability: 0 Reactivity: 0 PPE: None

Potential Health Effects

Eye Contact: Eye contact may cause mild eye irritation with discomfort.

Skin Contact: Does NOT cause skin irritation and the product is NOT skin sensitizer.

Inhalation: Does NOT cause any respiratory irritation. If consumer product accidentally contacts strong acids in restricted ventilation area, avoid breathing the vapors and allow adequate time for the vapors to disperse before re-entering the restricted area.

Ingestion: Non-Toxic

Carcinogenicity Information None of the components present in this material at concentrations equal to or greater than 0.1% are listed by IARC, NTP, OSHA, and ACGIH as carcinogens.

Section 4: First Aid Measures

Inhalation

Does NOT cause any respiratory irritation. If consumer product accidentally contacts strong acids in restricted ventilation area, avoid breathing the vapors, and allow adequate time for the vapors to disperse before re-entering the restricted area.

Skin Contact

Does NOT cause skin irritation.

Eye Contact

In case of contact, flush eyes with plenty of water.

Ingestion

Non-toxic. Give a glass of water.



Section 5: Fire Fighting Measures

Flammable Properties: Flash Point: Not Available (Non Flammable)

Flammable Limits: Lower Flammable Limit: Not Established

Burn Rate: Unknown

Upper Flammable Limit: Not Established

Flammability Classification: Non-Flammable liquid **Autoignition Temperature:** Not Established

Hazardous Combustion Products: Thermal or other decomposition may yield chlorine dioxide or chlorine.

Extinguishing Media: N/A (Non-Flammable liquid) **Additional Considerations:** None

FIRE FIGHTING INSTRUCTIONS: Non-Flammable liquid

NFPA Rating: Health: 0 Flammability: 0 Reactivity: 0 PPE: NONE

Section 6: Accidental Release Measures

Spill Clean Up

No special cleanup measures are required for the consumer product. To avoid the possibility of “bleaching” the spill should be absorbed with paper towels, and the area rinsed with clean water.

Accidental Release Measures

Spills are slippery and should be cleaned up promptly.

Section 7: Handling and Storage

Handling: Keep away from heat and strong acids. Do not ingest. Keep container closed. Use only with adequate ventilation.

Storage: Keep container tightly closed and sealed until ready for use. Keep container in a well-ventilated place. Do not store above 120°F or near fire or open flame. Store large quantities in buildings to comply with OSHA 1910.106. Do not transfer contents to bottles or other unlabeled containers. Do not reuse empty containers. Keep out of reach of children.

Incompatible materials: Strong acids

Special Packaging Materials: None

Section 8: Exposure Control/ Personal Protection

Engineering Controls: Use in adequately ventilated areas.

Personal Protective Equipment:

Eye/Face Protection: Not required for consumer product.

Skin Protection: Not required for consumer product.

Respirators: None required for normal use. If consumer product accidentally contacts strong acids in restricted ventilation area, avoid breathing the vapors, and allow adequate time for the vapors to disperse before re-entering the restricted area.

Exposure Limits:

Oxychlorine Compounds: n-Alkyl Dimethyl Ethyl benzyl Ammonium Chloride:

PEL (OSHA): Not available PEL (OSHA): Not available

TLV (ACGIH): Not available TLV (ACGIH): Not available

n-Alkyl Dimethyl Benzyl Ammonium Chloride:

PEL (OSHA): Not available

TLV (ACGIH): Not available

Section 9: Physical and Chemical Properties

Appearance: Colorless liquid **Odor:** Mild-Fresh

Physical State: Liquid **pH:** 8 - 9

Boiling Point (°F): 212 **Solubility in Water:** 100%

Freezing Point (°F): 32 **Vapor Pressure (mm Hg):** Not Available

Volatile Organic Compounds (VOC): None **Evaporation Rate:** Less than Ether

Specific Gravity: 1.003 @ 68°F (20°C) **Density (lb./gal):** 8.40 @ 68°F (20°C)

Section 10: Stability and Reactivity

Chemical Stability: The product is stable. **Incompatibility with other Materials:** Strong acids

Conditions to avoid: Contact with strong acids **Hazardous Polymerization:** Will not occur.

Hazardous Decomposition Products: Thermal or other decomposition may yield chlorine dioxide or chlorine.



Section 11: Toxicological Information

TOXICITY TESTING – ACUTE Inhalation – Studies with Wistar Albino rats exposed to a respirable aerosol made from a solution of Vital Oxide at a level of 2.08 mg/l for four hours resulted in no deaths and no abnormal necropsy observations. **Eye Contact** – Studies with New Zealand white rabbits showed this product is a very mild ocular irritant; mild conjunctival irritation was observed, but cleared within 24 hours. **Skin Contact** – Study of dermal toxicity in New Zealand white rabbits showed the product to be non-toxic: Dermal LD₅₀ > 5,000 mg/kg of body weight; Study of dermal irritation in New Zealand white rabbits showed the product is not a dermal irritant. In Dermal Sensitization studies, Vital Oxide was determined not to be a sensitizer. **Swallowing** - Acute oral toxicity in albino rats: Nontoxic LD₅₀ > 5,000 mg/kg of body weight.

EPA TOXICITY RATING – IV This is the lowest category on the scale and is designed for substances that are the least hazardous.

Section 12: Ecological Information

Environmental Hazards: No data available.

Environmental Fate: No data available.

Section 13: Disposal Considerations

Waste Disposal: Treatment, storage, transportation, and disposal must be in accordance with applicable Federal, State/Provincial and Local regulations.

Section 14: Transport Information

Shipping Information: Not regulated by DOT, IMO/IMDG and IATA/ICAO for ground, air or ocean shipments.

Section 15: Regulatory Information

U.S. Federal Regulations:

TSCA: All components appear in TSCA Inventory **OSHA:** Refer to Section 8 for exposure limits.

CERCLA SARA Hazard Category:

Section 311 and 312: This product has been reviewed according to the EPA "Hazard Categories" promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories: Information not available.

Section 313: This product contains following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372: None

State regulations:

State Right to Know information is not provided. **California prop. 65 (no significant risk level):** None

International Regulations:

Canadian WHMIS: Not controlled

Canadian Environmental Protection Act (CEPA): Additional information available upon request.

EU Regulations: Additional information available upon request.

Section 16: Other Information

The information is furnished without warranty, expressed or implied, except that it is accurate to the best knowledge of Vital Solutions, LLC. The Data on this sheet related only to the specific material designed herein. Vital Solutions, LLC assumes no legal responsibility for the use or reliance on this data.