

Quick Start Guide Aurora

1 Welcome

Welcome to the Aurora Manikin Quick Setup Guide. This guide is intended for for the Aurora Manikin user. This guide includes the following details:

1. Contents of the Aurora Manikin Package
2. Manikin power and connection status
3. Starting and connecting the RespiSim® software and running a simulation
4. Starting the Landing Application to connect the Patient Monitor



2 Aurora Manikin Contents

The Aurora Manikin includes the following components:

- Aurora Manikin (available in light or dark skin tones)
- Manikin charger
 - Input: Universal 100 to 240 VAC, 1.5A Max, 50-60Hz
 - Output: 15V 4.0A Max, 60W
- Universal power adapters (3)
- Manikin consumable package
 - IV Cannulation pad – Forearm
 - IV Cannulation pad – Dorsal
 - Humeral IO Replacement
- Manikin consumable package
- Tape
- Lubricant
- Humeral IO extra fat
- Luer lock pipe
- Internal lung technology based on the ASL 5000® Breathing Simulator architecture
- RespiSim® Software application (installed on Windows-based tablet – “Instructor” PC)
- RespiSim® Patient Monitor application (installed on Windows-based tablet – “Learner Display”)
- RespiSim® Virtual Ventilator Software



Figure 2-1: Aurora Manikin (Dark Skin Tone) with Learner Display



Figure 2-2: Aurora Displays and Accessories

3 Aurora Power and Communications

The Aurora Manikin has an internal rechargeable battery that allows for untethered operation for up to two (2) hours. Aurora also includes external power through a universal power adapter. The power switch on the side of the manikin has an LED indicator to display status of the system.

- Blue flashing – At power up, the system’s internal router must complete its startup processes. The power switch will flash blue until the system is ready for use
- Yellow – When system is off and charging
- Blue solid – Battery is 50-100% charged
- Green solid – Battery is 15-49% charged
- Red solid – Battery is 5-14% charged
- Red flashing – Battery is less than 5% charged
- Red and Yellow alternating – System cannot determine the remaining energy in the battery. Please fully charge the battery

The manikin also includes an Ethernet port on the same side as the charging port.

As delivered, the Ethernet port can be used to directly connect the Instructor PC or Learner Display to the manikin.

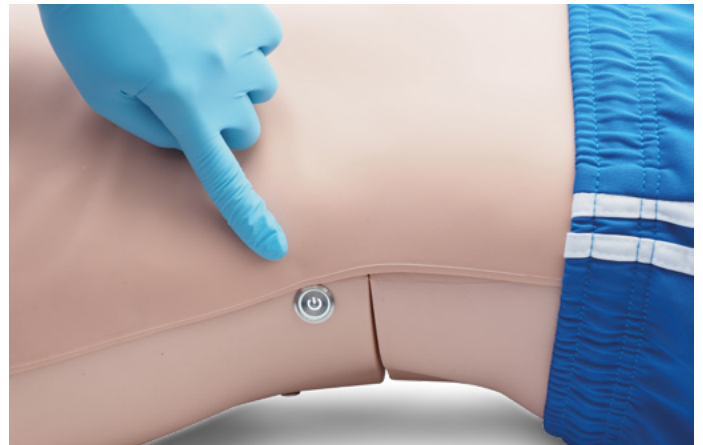
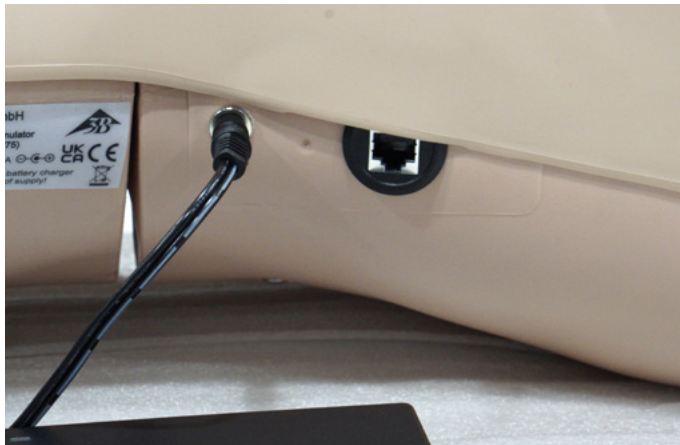


Figure 3-1: Power and Communications

4 Connecting to RespiSim



Note

For detailed instructions on the RespiSim® Software, please visit the following link to download the RespiSim® User Manual: <https://www.ingarmed.com/auroradownloads/>

Whether Aurora is charged or connected to wall power, press the power switch on the side of the manikin. The power indicator will flash white for approximately 2 minutes while the internal router and system complete the initialization process.

Once the power indicator changes to solid, the Aurora manikin is ready to connect to RespiSim®. Aurora’s wireless router should already be paired with the Instructor computer. If this is not the case, please see the troubleshooting section below. The typical network naming convention for the router’s SSID and password are as follows:

SSID: IngMarWifi_[Aurora 4-digit serial number]

Password: ingmarwifi (all lower-case)

From the instructor computer, launch RespiSim® software by double-clicking the RespiSim® icon on the desktop. This opens the RespiSim Startup Screen.

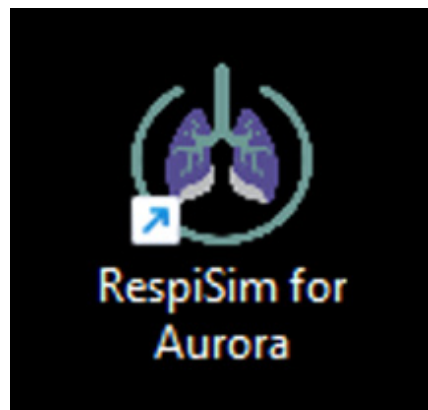


Figure 4-1: Desktop Icon for RespiSim®

4.2 Building and Running a Basic Scenario

From the Startup Screen, open an existing Scenario or load a new Scenario from scratch. To create a new Scenario, select New Scenario and click Select Scenario to open the New Scenario screen. This screen is where the Scenario can be named (optional) and the patient's initial condition Lung Model is selected.



If the Scenario Name is left blank, the name defaults to New Scenario1. Any new Scenario without a name created thereafter, increments the Scenario number, e.g. New Scenario2, New Scenario3, etc.



Figure 4-2: RespiSim® Startup Screen

After selecting the patient's initial condition Lung Model, click confirm. The Home Screen opens.

The Scenario can be started by clicking the Start Scenario button (bottom right). Clicking this button will automatically connect the system to the Aurora manikin (if it is not already connected). The waveforms observed on the Home Screen are translated to the manikin's internal lung simulator and chest-rise feedback.

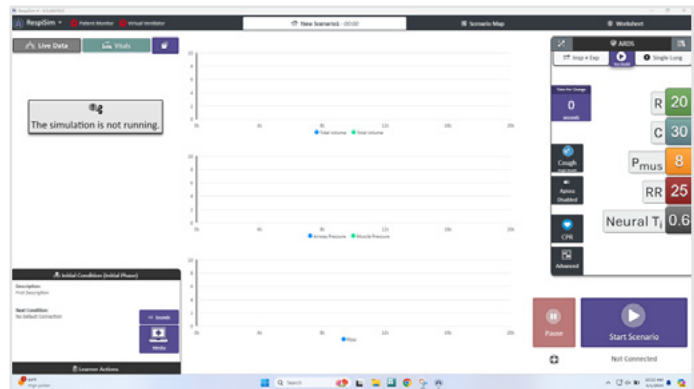


Figure 4-3: Home Screen

Aurora and RespiSim® also include a CPR feedback component. Open the CPR control window by clicking the CPR button inside the Lung Model Builder window.

The CPR control can be moved around on the main screen and maintains visibility if switching between the Home Screen and other tabs in the RespiSim® software.

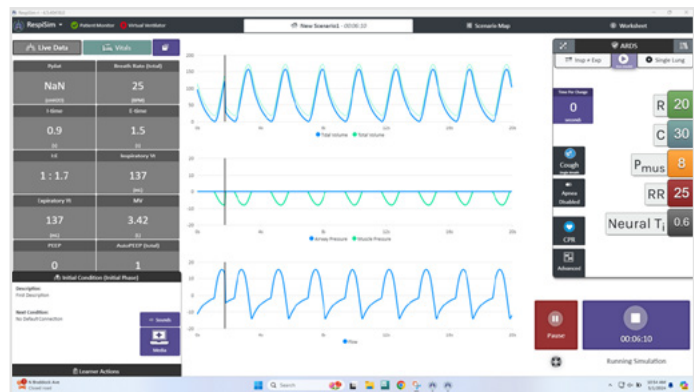


Figure 4-4: Running Simulation

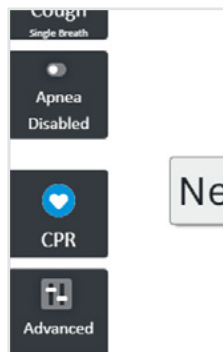


Figure 4-5: Access to CPR Control

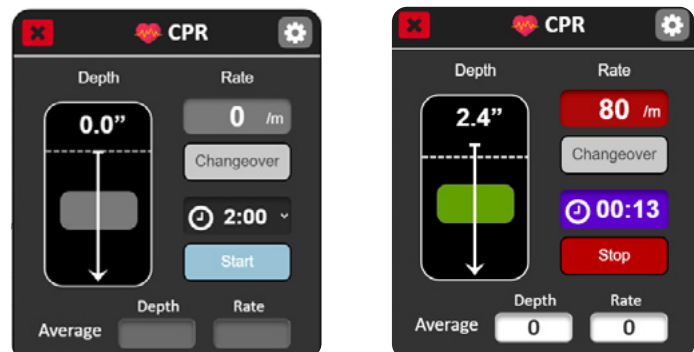


Figure 4-6: RespiSim® Aurora CPR Control and Feedback

5 Patient Monitor Application

Included with the Aurora Manikin are the Instructor PC and the Learner Display. The Learner Display is a separate tablet PC that can run the Patient Monitor application.

The Patient Monitor is an instructor-driven, interactive application that gives the learner information about the patient medical state during a simulation. This includes vitals, waveforms (HR, SpO₂, BP, ETCO₂), labs / ABGs, as well as relevant images / media (x-rays, scans, ECGs, Ultrasounds) and notes relevant to the simulation.

The Patient Monitor Application is controlled by the RespiSim® Software. The Patient Monitor application is accessible via the RespiSim® PM and VV Landing Application. The Landing Application will already be installed on the Learner Display PC



Figure 5-1: RespiSim Landing Page for Patient Monitor and Virtual Ventilator



When the Landing Application first opens, the Device Address field will have "Localhost" as the default address. This address can be used to connect to the Patient Monitor only when the Landing Application is run from the same computer running RespiSim®

On the Landing App window, first click the Patient Monitor icon, then enter the IP address of the PC running RespiSim®. Select the patient type (e.g. Adult) and click the start button. The Patient Monitor opens displaying connection status in the top left of the window. Once relevant vitals information is added on the RespiSim® side, the Patient Monitor will display the patient's current condition.

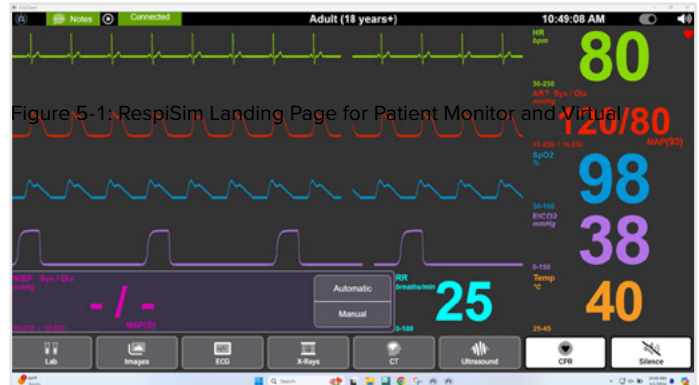


Figure 5-2: Patient Monitor Before Starting a Simulation

6 Technical Data

Aurora uses the RespiSim® software for operation. Please follow this link to the RespiSim® user manual: <https://www.ingmarmed.com/respimdownloads/>

6.1 Internal Lung Technology Performance Specifications

Modes of Operation	Passive Spontaneous Interactive (change lung parameters in pseudo-real time)
Volumes	Total: 1000 mL
Tidal:	900 mL
Flow	Peak Flow: 100 LPM
Resistance	8 to 150 cmH2O/L/s
Compliance	3 to 150 mL/cmH2O
Breath Rate	Passive to 100 bpm
Patient Effort (muscle pressure)	0 to 50 cmH2O
PEEP	>20 cmH2O
Neural Inspiratory Time	1 to 3.6 seconds

6.2 Electrical Specifications

Supply Voltage	Input: Universal 100 to 240 VAC, 1.5A Max, 50-60Hz Output: 15.0V, 4.0A Max, 60W
ISL Electrical Specifications	12V Nominal, 4.0A Max

6.3 Physical Specifications

Dimensions

Manikin	5 feet 6 inches length (170cm length)
ISL (internal) Lung	4.5 inches diameter (114.3 mm diameter) 9 inches length (228.6 mm length)
Weight	
Manikin	33 lbs. (15 kg)
ISL (internal) Lung	3.2 lbs. (1.45 kg)

6.4 Communication Specifications

Interface	Wireless Router (FCC ID: 2AFIW-AR300M)
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6.5 Environmental Specifications

Operation	Temperature: 10°C to 40°C
	Humidity: 10 to 95%, non-condensing

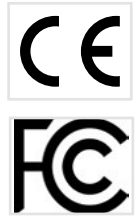
6.6 Safety and Regulatory

The Aurora Manikin has received 3rd party testing for electrical safety and compliance.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and
2. This device must accept any interference received, including interference that may cause undesired operation.

The Declaration of Conformity is available upon request.
Specifications are subject to change without notice.





7 Troubleshooting

7.1 Connecting Instructor and Learner Display PC's to Aurora

If the Instructor PC or the Learner Display PC are not connecting to their RespiSim® components, it is possible they are not connected to the internal router of the Aurora manikin.

To check / confirm the PC's are on Aurora's network:

1. Power on the Aurora manikin. Wait approximately 2 minutes until the power indicator is no longer flashing blue
2. Windows 10 PC's
 - a. At the bottom right of the desktop, click the caret "v" symbol to open the task bar options
 - b. Click the symbol that looks like a globe: 
 - NOTE: the globe may be present in the taskbar without having to click the "v" symbol
 - c. Find the Aurora network SSID, as displayed above. Make sure to click the "Connect automatically" check box and click "Connect"
3. Windows 11 PC's
 - a. At the bottom right of the desktop, click the caret globe symbol  to open the Network window, then click the Wifi greather than symbol ">"
 - b. Find the Aurora network SSID, as displayed above. Make sure to click the "Connect automatically" check box and click "Connect"

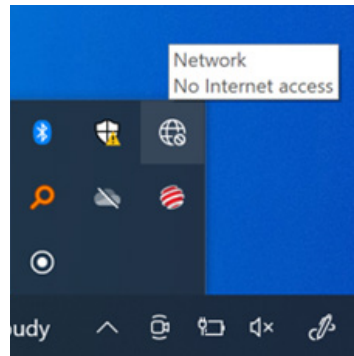


Figure 7-1: Windows 10 Find Aurora Network

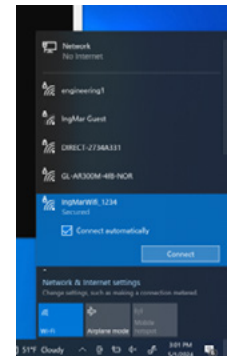


Figure 7-2: Windows 10 Select Aurora Network

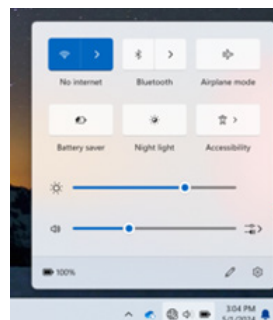


Figure 7-3: Windows 11 Find Aurora Network

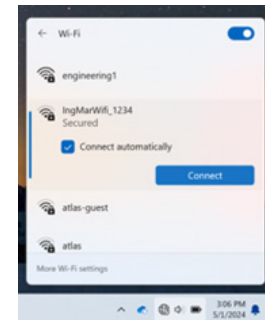


Figure 7-4: Windows 11 Select Aurora Network

